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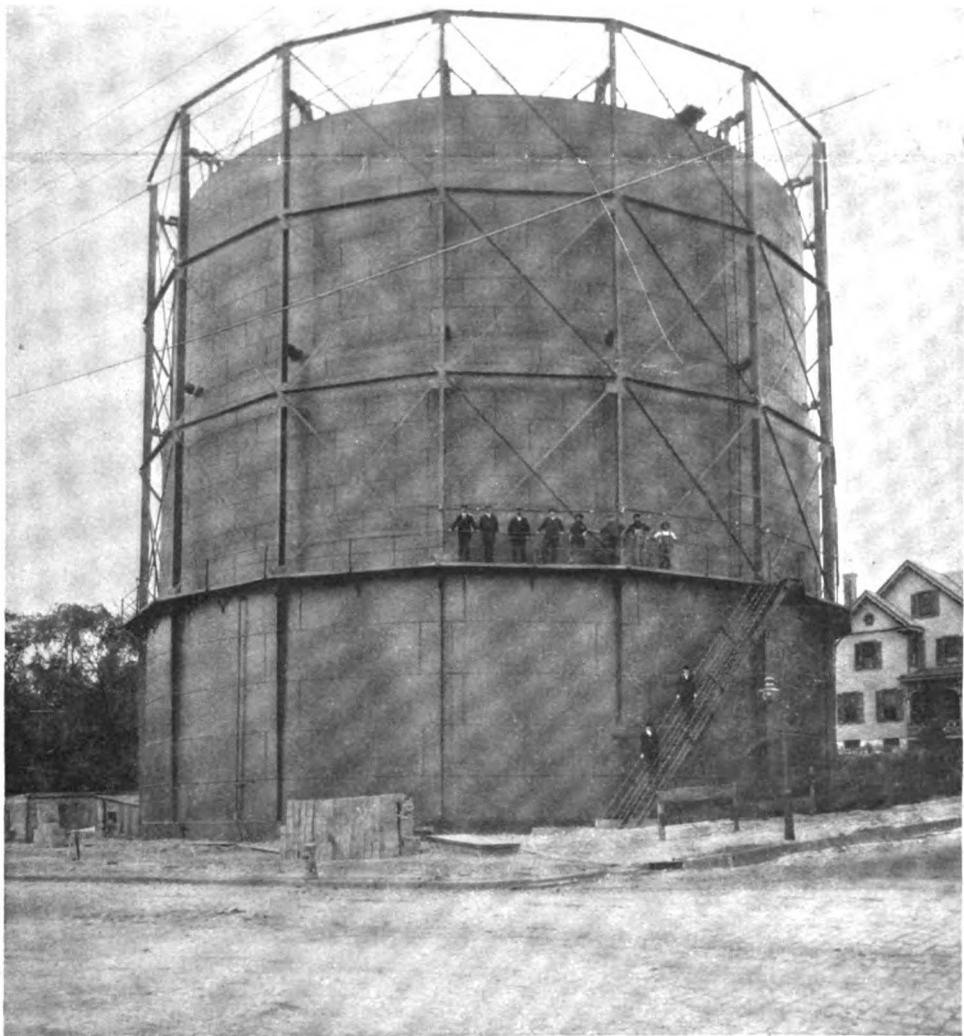
# Graphite

**Issued in the interest of Nixon's Graphite Productions, and for the purpose of establishing a better understanding in regard to the different forms of Graphite and their respective uses.**

**Vol. XVII**

**January, 1915**

**No. 1**



**BRIDGETON GAS LIGHT COMPANY'S HOLDER**  
**CAPACITY, 300,000 CUBIC FEET**

**SEE PAGE 3829**

**353659**

ESTABLISHED 1827



INCORPORATED 1868



## JOSEPH DIXON CRUCIBLE CO.

JERSEY CITY, N. J., U. S. A.

**Miners, Importers and Manufacturers of Graphite,  
Plumbago, Black Lead.**

### OFFICERS:

*President*—GEORGE T. SMITH  
*Vice President*—GEORGE E. LONG  
*Secretary*—HARRY DAILEY  
*Treasurer*—J. H. SCHERMERHORN  
*Ass't Sec'y & Ass't Treas.*—ALBERT NORRIS

### DIRECTORS

GEORGE T. SMITH	GEORGE E. LONG
WILLIAM G. BUMSTED	EDWARD L. YOUNG
	HARRY DAILEY
	J. H. SCHERMERHORN

### OFFICES AND SALESROOMS

NEW YORK SALESROOM, 68 Reade Street.  
 PHILADELPHIA SALESROOM, 1020 Arch Street.  
 SAN FRANCISCO SALESROOM, 155 Second Street.  
 CHICAGO BRANCH, 1323 to 1327 Monadnock Block.  
 BOSTON OFFICE, 347 John Hancock Building.  
 PITTSBURGH OFFICE, Wabash Terminal Building.  
 ST. LOUIS OFFICE, 501 Victoria Building.  
 BALTIMORE OFFICE, 616 Professional Building.  
 BUFFALO OFFICE, 72 Erie County Savings Bank Building.  
 ATLANTA OFFICE, Fourth National Bank Building.

#### EUROPEAN AGENTS,

Graphite Products, Ltd., 218-220 Queen's Road, Battersea, London.  
 SOUTH AMERICAN AGENT,  
 Alfredo J. Eichler, 666 Calle Cangallo, Buenos Aires, Argentine.  
 CUBAN AGENTS,  
 For all Products Except Dixon's American Graphite Pencils  
 Croft & Prentiss, Room 424 Lonja del Comercio, Havana.  
 For Lead Pencils, Etc.,  
 National Paper and Type Co., Calle O'Reilly 46, Havana.

### IN THE TWILIGHT OF THE YEARS

We are in the twilight of the years. 1914 is setting and 1915 is close at hand. The book of 1914 will soon be closed and whatever events it brought with it belong now to the past as much as those of a thousand years ago. The book of 1915 lies open before us—a blank page—with everything yet to be written in it.

The chief thought of every one on the first day of the year is to express good wishes for everybody else. We have always been doing this and we shall probably continue to do it. It is a pleasant custom even though the wishes of man cannot in any way change the course of events.

We know that to some there will come sorrow and to others there will come happiness. To some there may come wealth and prosperity, and to others there may come misfortune and poverty.

So long as we cannot change or fix coming events, let us wish that those who may be blessed with health and wealth may not forget those who are ill and unfortunate. Let us wish that they may remember that health and wealth constitute a sacred trust and are given us that we may exercise them for the benefit of others as well as for our own comfort and pleasure.

To those who are poor, let us wish that they may have the intelligence to know that poverty should not last forever if they have thrift and industry. It was our friend Benjamin Franklin who said: "The road to wealth is as plain as the road to market."

Let us all remember that there are certain laws swaying the universe and determining beforehand what under any given circumstances shall happen to every individual or nation on the earth, and that the events and happiness that come upon the earth are due to the obedience or disobedience of those laws.

### "BETTER BUSINESS"

According to N. W. Ayer & Son

In the "Foreword" to their little book bearing the above title, Messrs. N. W. Ayer & Son say:

Business is getting better in this country every day and we confidently look for steady and continuous improvement. Our business is growing. So is the business of many concerns with which we are closely acquainted.

To be sure, some business houses are experiencing difficulty in procuring raw material; some others may be restricted by credit limitations; still others face necessitous adjustment because of proposed or actual legislation. But, annoying as all these things are, they are more or less transient and are not sufficiently important or numerous to change fundamental conditions.

The basic elements upon which national industrial development must be predicted are rapidly becoming normal.

We are generally considered careful in our expression of business opinion and have a reputation for conservatism; but we speak from intimate and confidential relations with leading houses in many lines of trade, and we unhesitatingly express the belief that the United States is on the verge of unexampled commercial expansion.

It is a rare time for real planning. It is a rare time for improvement of product. It is a rare time for strengthening of business organization. It is a rare time for sane advertising.

It is no time for the bluffer. It is no time for splurge publicity. It is the time of times for the courageous conservative. Some great advertising successes will have their beginning while 1915 is yet in its swaddling clothes.

DIXON's graphite publications sent free upon request.



THE above photograph shows a few of the one hundred and fifty delegates of the American Railway Bridge and Building Association on a trip to the summit of Mt. Lowe, Cal., and the famous observatory there.

The convention was held at Los Angeles, Cal., in October, 1914, the Joseph Dixon Crucible Company being represented by Mr. C. E. Wehn of their San Francisco Branch. The convention was an important one and interesting papers were read by the various railroad officials present.

The 1915 convention of the American Railway Bridge and Building Association will be held October, 1915, in Detroit, Mich.

#### THE LAST OF HIS RACE

If some of the older ones who read GRAPHITE had been asked concerning the once widely known humorist, Robert P. Burdette, they would have replied, "Why, I thought he was dead."

As a matter of fact, his death has only lately been recorded in the daily papers, but with his passing there goes out really the last one of his race. He was the last of a group of newspaper humorists who flourished during the seventies and eighties.

His wit was not like that of Franklin, James Russell Lowell and Oliver Wendell Holmes, founded on wisdom with a fine literary quality. It dealt chiefly with such homely themes as

the putting up and taking down of the stove pipe, the inopportune visit of the mother-in-law, the return from the lodge and the treachery of the banana peel, which themes were those of the well remembered man of the *Danbury News*, the man of the *Detroit Free Press*, and Robert P. Burdette of the *Burlington Hawkeye*, to whom also the antics of the whiskered goat served them all long and faithfully. This we are told by the *New York Herald*, which adds: "Just now humor is at a low ebb in this country. Even our boasted sense of the ridiculous seems to be disappearing."

#### IRON AND STEEL

To very many people steel is simply iron. In the minds of many there is no difference between iron and steel except in name. As a matter of fact, chemically pure iron is nearly rustproof, while steel is quick to rust. Just why this is so need not trouble us for the moment, but those who are older and remember the tin pans, tin kettles and tin roofs of our grandfathers' day, know that no tin can be obtained at the present time equal to the old time tin. This is due to the fact that thin sheets of steel are used for the making of tin plates for the roof and for tin pans and tin kettles instead of the old time black-iron plates.

There was a time when steel cost more than iron. Today steel is cheaper than iron, and for that very reason our roofs, our bridges, fences, tanks, etc., must be more carefully looked after than ever.

The paint which will give the longest protection is the paint to be used, and if the experience of the past twenty-five to forty years will determine the matter, then it is self-evident that the best paint for protecting all steel structures, roofs, etc., is Dixon's Silica-Graphite Paint.

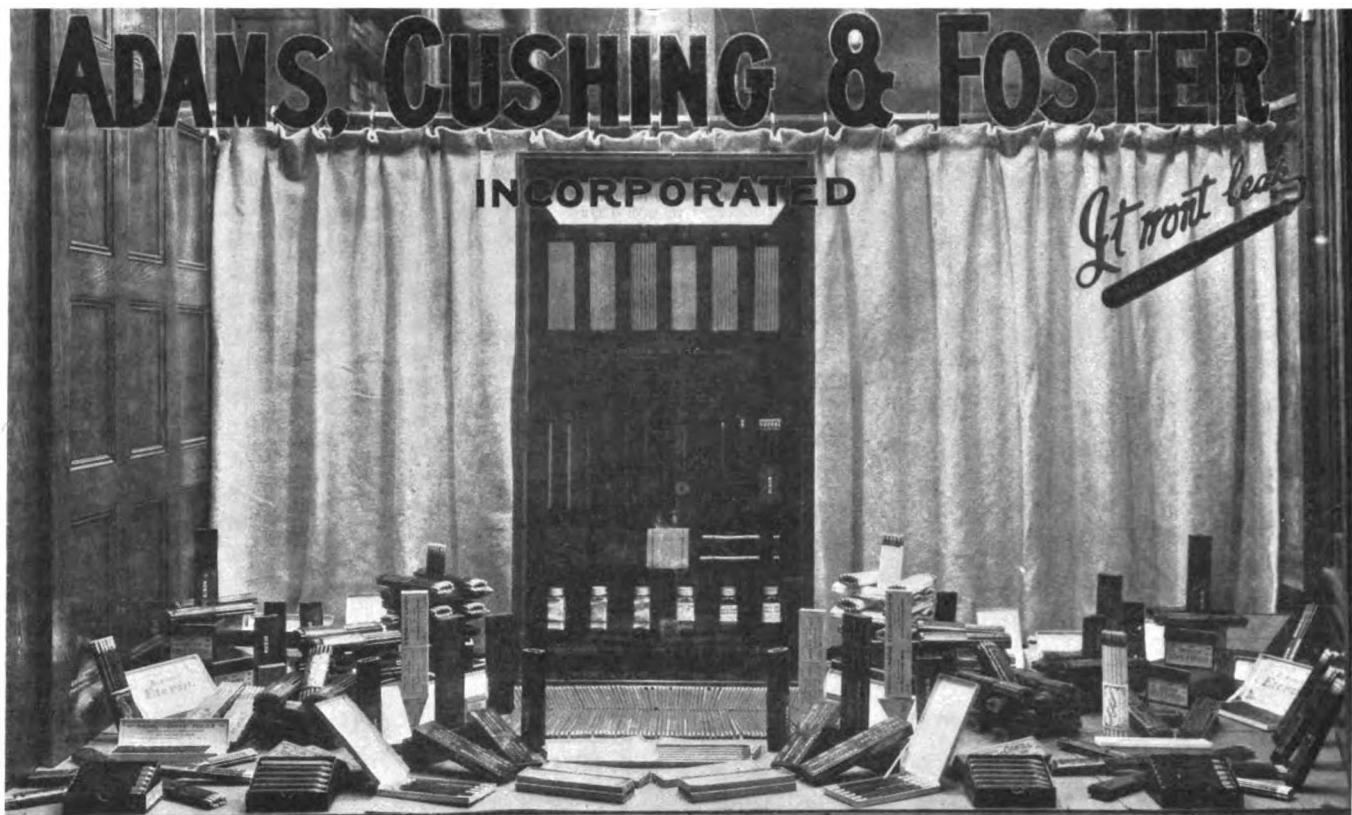
Rust is the bitterest and most persistent enemy of this age of steel, with its bridges and wires and skyscrapers and machines. Many attempts have been made to produce rust-proof steel, but practical experience points to Dixon's Silica-Graphite Paint rather than to any "process." It is the experience of many observers that the most satisfactory way of getting the very highest results from the application of graphite paint is to put upon the metal surface as a very first treatment, a coating of red lead or oxide of iron, and on that coating apply two coats of Dixon's Silica-Graphite Paint.

#### IT COMPLETES GRAPHITE

I thought "E" to be the most unfortunate letter in the alphabet, because it's always out of cash, always in debt, never out of danger and forever in hell. But after I became better acquainted with "E" I found it was never in war and always in peace. It is the beginning of existence, the commencement of ease and the end of trouble. Without it there would be no meat, no life, no heaven. It is the center of honesty, makes love perfect and without it there would be no hope.—*Totem Pole, Seattle, P. I.*

"WE ARE extensive users of Dixon's Graphite Productions and find that they give perfect satisfaction. We also find some very interesting reading in GRAPHITE.

—HOLT MANUFACTURING COMPANY, Stockton, Cal.



#### ATTRACTIVE DIXON PENCIL DISPLAY

An unusually clever display of the Dixon Pencils has attracted the attention of many this month in one of the large show windows of Adams, Cushing & Foster, one of Boston's prominent stationers.

Prominent in the background is a display case prepared by the Joseph Dixon Crucible Company, showing pencils in the various stages of manufacture and the materials used. The exhibit causes one to realize the large amount of work and care required in producing a first class lead pencil such as the Dixon Company make. Surrounding this process exhibit are Dixon's Pencils effectively arranged, including many popular brands on which the sales in New England have largely increased.

The material for the display was furnished by Dixon's Boston Office and arranged by Mr. W. E. Hutchinson of Adams, Cushing & Foster, whose artistic ability for clever window decorations is shown in the accompanying illustration.

#### THE AMERICAN WAY?

Manufacturers of the United States have been criticised and laughed at considerably by foreign manufacturers at their ignorance of export business. Very often something bobs up that shows the criticism and laughter are not entirely without some foundation in fact.

A letter from the Dixon representative at Buenos Aires shows how some American manufacturers do foreign business. We quote the following extract:

"In the mail which reached here two days ago there must have been tons of circular letters from American manufacturers. Some of the circulars carried the usual two cent stamp which required a fifteen cent payment on this end for the concern who received the circular. Several concerns showed me the collection they had received, and while some of the letters

were well gotten up, the largest portion of them were in English, so that the big majority of the concerns who received them were unable to read them.

"Ordinarily a circular letter is examined, but when a concern receives four or five hundred pieces, it destroys the value of most of them, and no doubt a great deal of the money which is now being spent in the United States for circularizing purposes will be wasted."

What would our own manufacturers think if they received circulars from France and Germany short of postage and written in either French or German? How many of the United States manufacturers would pay the excess postage with pleasant feelings and take the trouble to get the circulars translated?

#### JOSEPH DIXON'S AUTOMOBILE

In the memoirs of Moses Sweetser, a nephew of Joseph Dixon, the founder of the Joseph Dixon Crucible Company, we find the following:

In 1821 or 1823, when Joseph Dixon was a young man, he was called to Hall's Dye House in the village of Lynn, Mass., to serve as a practical chemist. While at the dye house, Mr. Dixon's fertile mind was reaching out for new problems to solve to benefit his country or rather the world by his restless inventive brain. He conceived the idea of a steam land carriage and built a crude wooden locomotive with two cranks. He succeeded in making a machine that would run on a level roadway but would not run uphill. He was laughed at at the time, but lived to see his ideas advanced. Col. Francis Peabody of Salem, Mass., during his life had in his archives the double crank of Dixon's locomotive.

CARE awaits the careless.

**DIXON'S GRAPHITE NON-LEAK GREASE No. 680**

when Dixon's No. 677 or No. 675 will not remain in the differential without leaking and it is not to be used in the transmissions.

**WHAT THE "PIONEER" SAYS**

Readers of the *Haynes Pioneer*, the house organ of the manufacturers of "America's First Car," received some good advice about lubrication in the last issue of that interesting publication.

We are very glad to present this advice to the readers of GRAPHITE, for many of them are either owners or prospective owners of "America's Greatest 'Light Six'". The *Pioneer's* advice is from Mr. H. A. Minturn, manager of the Technical Bureau, and is in answer to an inquiry from a reader of the *Pioneer*, asking for an explanation of the effect of graphite used on cylinder walls.

"We recommend flake graphite for every class of lubrication. Powdered graphite should never be used because it packs and "balls" up and has other disadvantages not possessed by the flake variety. Sometimes a powdered graphite is apparently satisfactory for a time, but it does not possess the lubricating properties of the flake variety. It is understood that the flake graphite recommended for motor lubrication is in a finely divided state, though still in flake form.

"To thoroughly convince yourself of the difference between the powdered and the flake varieties, we would suggest that you place samples of each form on separate sheets of paper, and then shake the papers horizontally. You will find that the flake graphite spreads out smoothly and produces a coating, while the powdered form rolls up into small balls and produces very little coating. The tendency to form balls is more pronounced when the graphite is wet with oil.

"When graphite is used in cylinder oil, a coating of graphite forms over the cylinder walls to give an extremely smooth bearing surface. The compression is improved, smoky exhaust is eliminated, valves are freer from pitting, and the engine will last much longer when the graphite is used with the oil. Flake graphite by itself is a splendid lubricant, but its use should not be taken as an excuse for using poor grades of oil. There is never any danger of the graphite carbonizing the spark plugs, as many tests have proved.

"Graphite may be used to very good advantage in all of the Haynes cars. A teaspoonful of flake graphite to the gallon of oil is ample.

"The use of graphite costs a little more at the start than doing without, but real economy is effected later that can be counted as actual money saved."

—*Daily Paper.*

**BRUSH CLAIMS ASIDE!**

Experts have decided by the most exhaustive and trying tests, covering a period of fifty years, that the most satisfactory results in the protection of metal surfaces is found in Dixon's Silica-Graphite Paint, and, that is the reason why the railroads and other large corporations who have made a study of the economy of paints and painting, have adopted Dixon's Silica-Graphite Paint as their standard for maintenance work. Made in *one quality* only. The vehicle is pure boiled linseed oil, and the pigment, Nature's own formation of silica and flake graphite. No mechanical mixture of silica and ordinary graphite can approach it for lasting qualities. If interested, write us for further details.

**THE SILENT SALESMAN**

It invades your private office  
In a quiet, modest way,  
And it plants itself beside you  
Quite as though it meant to stay.  
But, although it's unassuming,  
It is very wide awake;  
It's the Advertising Section  
Of the journal that you take.  
  
If you're not prepared to listen,  
It is mute until you are,  
And it doesn't try to bribe you  
With a passable cigar.  
When it talks, you get the message  
Free of flattery and bosh,  
For it has no space to squander  
On a lot of pleasant josh.  
  
Quite unlike the wordy agent,  
It can never be a bore,  
Since it tells its story quickly  
And attempts to say no more.  
In its typographic colors  
It is neatly, plainly dressed,  
And it doesn't pain your optics  
Like a yard of lurid vest.  
  
When you've heard its brief recital—  
When you've slowly read it through—  
Then its mission is concluded  
And the rest is up to you.  
Your decision is judicial  
And unbiased, for you're free  
From the prompting and persuasion  
Of a salesman at your knee.  
—R. T. STROHM in the *National Engineer*.

IN ELECTRIC MOTORS or generators in which graphite brushes are employed, particular care should be taken to keep the accumulation of brush dust wiped away, for as graphite is a good conductor of electricity, it is possible for a ground or short circuit to form with the aid of the dust and perhaps a little oil.

True, but if carbon brushes are used the danger is even greater, as carbon is a better conductor of electricity.



## PULLEN MAKES NEW WORLD'S AUTO RACING RECORD

**Winner's Words, "It Takes That Flake Graphite Veneer on the Bearings to Bring You in First," is Recalled**

The smile pictured on the face of the automobile driver in our illustration is the same with which Eddie Pullen won the recent Corona Road Race and established the world's road racing record of 87:7 M. P. H. The same smile may, to some extent, account for many of Pullen's past performances, although he himself said after winning the Fifth International Grand Prize Race at Santa Monica last April, "You may be interested to know that my Mercer was filled throughout with Dixon's Graphite Automobile Lubricants. After four years use in all kinds of cars, I have proven to myself and some other people that it takes that flake graphite veneer on the bearings to bring you in first."

The Corona Road Race occurred on Thanksgiving Day at Corona, California. Pullen's time for the 300 miles was three hours, six minutes and thirty-two seconds.

At the start Pullen took the lead and set a fast pace. For twenty laps he held the lead by a fair margin, averaging better than ninety-six miles per hour, with his right front tire giving way. When tire trouble set in he was thrown back several places, losing practically a lap. Pullen finished amid the cheers of the one hundred thousand spectators who lined the course.

It was truly a great race. There were 15,000 automobiles parked around the course and many thousands parked in the

city back from the course. The attendance was estimated at 100,000. The first four cars to finish broke the world's speedway record and the road race record as well.

A new non-stop record was established at Corona, which is now admitted to be the fastest course in America with the possible exception of the Indianapolis Speedway, which latter is credited with the fastest time ever made.

Among the other drivers in the Corona Road Race who used and recommend Dixon's Graphite Automobile Lubricants were: Barney Oldfield, who finished in second place; Billy Carlson, who finished in sixth place; Louis Nikrent, who finished in seventh place; and Rickenbacher, Klein, Lewis, Grant, Callahan and Cooper.

### AN ACKNOWLEDGMENT

"I intend to read a paper on 'Graphite, its production and uses.' Will you be kind enough to send me as much information as you can on the subject, as I fear my knowledge is not up to date."

This comes to us from a well known member of a Scientific Society of London, England.

The Joseph Dixon Crucible Company has quite a fund of information on the subject of graphite and is always glad to give it freely to all who may be interested. Bound volumes of GRAPHITE, the Dixon house organ, are furnished to many public and private libraries.

To SPEED, is human; to be caught, is fine.

### USE OF SPANISH

Teachers should learn to pronounce Spanish names and use familiar Spanish terms. The only help to all that one needs for pronunciation and for general use that we know is a booklet issued by Joseph Dixon Crucible Company, Jersey City, entitled "Useful Spanish Words and Phrases."

You can have it free by sending a post card to the Dixon Company.

It gives a page on "Spanish Pronunciation" that is so clear that anyone can read Spanish in Spanish. It classifies the days of the week, the months, the seasons, numbers to one thousand, and gives two pages of everyday expressions. It also contains terms used at the post office, hotel, barber shop, restaurant. Gives the names of fish, fowl, meats, breads, vegetables, condiments, deserts, cheeses, men's and women's wearing apparel, articles of furniture, etc.

It is the best thing you will get with a post card in many a day.—*Journal of Education*.

### ONE ON THE ROAD

The telephone rang. At one end of the wire sat Mr. R. H. Forbes, traffic manager for the well known general wholesale house of Butler Bros., Jersey City. At the other end was the claim agent of a prominent railroad.

"What's this invoice for a thousand pounds of ice rendered for?" asked Mr. Forbes.

"That," explained the claim agent, "is for that shipment of eggs you just received from Chicago. The icing was renewed three times—"

Just then his astounded and outraged ears were greeted with an explosive burst of laughter and—

"Get off the wire," he shouted at the imaginary interloper.

"It's all right," chuckled the voice of Forbes. "Though I think you'd better cancel that charge for icing our china nest eggs."

A short and ugly, though indistinct response was heard as the receiver clicked into place.

### REALLY A RECOMMENDATION

"Replying to yours of September 21. We painted our tin roofs with your paint about eight years ago and have been trying ever since to get the darned graphite off because we use the water for bathing purposes and all other uses for soft water, and we couldn't prevent the paint from coloring the water, as it never fails to discolor the rain water from the roofs."

This letter was intended for a "kick." It proves that Dixon's Silica Graphite Paint is an *everlasting paint*.

### DIXON COMPANY'S REPLY

"Really, we consider this a sort of compliment. It reminds us of what a tinsmith said some time ago. He was called upon to do some repair work on a tin roof, and to do it and to make his solder stick, he had to get the paint off the tin.

"He used just about the same word that you have used, only his was "darnest." He said it was the darnest paint he had ever seen, as other paints readily peeled from the tin, while he had to scrape the tin to get Dixon's Silica-Graphite Paint off.

"We shall not attempt to contradict you if you say the graphite colors the water, but really the discoloration must be very small, and the advantage in one respect is very great, that is, graphite is of the same nature as charcoal, and is just as pure and sweet and as harmless. Other paints might possibly have some ingredient much worse than coloring matter."

### THE SMOKE NUISANCE

Motorists wonder why graphite used in the crank case will eliminate the smoke nuisance. This is very simple when understood. Smoking is caused by an excessive amount of oil getting by the piston rings into the explosive chamber where it is burned. By the use of about a teaspoonful to the gallon of oil, the graphite fills in the pores in the metal and finally places a veneer over the entire surface. It increases the compression and prevents an excessive amount of oil getting into the explosive chamber. It also eliminates friction and, of course, the increased compression increases the efficiency of the engine.—*American Motorist*.

### A DIXON DELIVERY

"The writer generally carries about with him a few copies of the new Dixon publication, "Useful Spanish Words and Phrases." When the other day the writer called upon a superintendent of schools, he (the superintendent) had just received a copy of this booklet and seemed to be quite impressed with its usefulness. He asked how long it would take to get two or three more. In reply the writer placed before him the number of extra copies desired with the statement that we were always in a position to make prompt deliveries."

—From H. B. VAN DORN.

DIXON's graphite publications sent free upon request.

Keep your car from  
an early grave—lubri-  
cate it with

### DIXON'S Graphite Grease 677 For Transmissions and Differentials

It reduces Friction to a  
mere nothing. The graph-  
ite in the grease eliminates  
metal-to-metal contact be-  
tween parts by forming a  
thin, tough, veneer-like  
coating of graphite.

Dixon's Lubricating Chart  
has some valuable pointers for  
you. We'll send it on request.

THE JOSEPH DIXON CRUCIBLE CO.  
JERSEY CITY, N. J.



Established in 1827

Established in

### ST. LOUIS BLACK ART

Mrs. Alvina Farber, a St. Louis clairvoyant, brought an action to recover a record of love philters and hoodoo charms which she alleged her husband stole. Mrs. Farber told a tale sad and mysterious. She has been at work amputating woe and booting hard luck around ever since she first heard Mr. P. T. Barnum's remark about the sea food that is born every moment.

Without her complete records she could not say offhand how many unhappy homes she had patched up at piecework rates or how many enemies she had warded off her honest and quick paying clients, but she said that without her much of the happiness now in evidence in St. Louis would have skidded across the city and gone elsewhere.

One of her books showed that she had removed a hoodoo from one woman for \$7 which, considering that a hard winter is promised, seemed fairly reasonable.

Another entry showed that another woman had paid \$2 by mail to have a hoodoo cut off, but as a balance of \$4 remained, it is probable that about \$3.98 worth of the hoodoo is still in action.

One of the most interesting entries showed that a man had paid \$5 down on a ten dollar account to insure Annie hating another fellow. Two dollars had subsequently been sent by mail, which added to the growing indifference of the young lady, and only \$3, according to the record, prevented the man from having all Annie's love.

Other entries showed that for sums ranging from \$2 to \$15 lost ones had been found, business had picked up, loves had returned, hoodoos had vanished and the future had been thrown wide open.

Mirth in the City Court room was in evidence, except when the names of some of those persons present were read. Then the mirth quieted down from that particular section.

### "GRAPHITE" AS AN ADVERTISING MEDIUM

Sometime ago an article appeared in GRAPHITE on Earley's Dry Graphite Lubricator, and from the number of inquiries that we have received relative to that lubricator, it is self-evident that GRAPHITE is not only widely read but is a first class advertising medium. The evidence is made more conclusive because of many previous instances.

At the same time we consider GRAPHITE as strictly a Dixon house organ and no advertisements are admitted to its columns. We believe that the function of a house organ is to radiate information relative to the products of the house, and that a house organ should not encroach in any way on the regular trade paper.

Because of that belief, the Joseph Dixon Crucible Company does not accept advertisements for its house organ and it does not advertise in a house organ.

"THE DIXON booklet, "Useful Spanish Words and Phrases," is a very interesting and instructive little work and I thank you for the courtesy of sending it.

"Please send me two more copies and also one copy of "Graphite for the Boiler." You will see that I have followed your request that we read the advertisements."

—From a School Superintendent.

### GRAPHITE

### A POUND OF COAL

*Steam* asks how many of us have ever seen a pound of coal. We have all seen tons of coal and piles of coal, but probably not one in many thousands has seen a pound of coal. A pound of coal, if in a cube, would be two and three-quarter inches on the side. This is not a very big piece of coal but it is big enough to sustain a horsepower for almost, not quite, an hour if consumed in a high grade stationary steam power plant of large proportions.

If that pound of coal is burned in a modern superheating steam locomotive under conditions of constant running, it will suffice to develop a horsepower for twenty or twenty-five minutes.

If it is burned in a freight locomotive, moving at ordinary freight train speeds, it will suffice to carry a ton fifteen or sixteen miles.

Assuming the ordinary locomotive, say in passenger service, to run twenty miles per ton, the locomotive will need to be supplied with a pound of coal like this for every fifty-two feet of its travel.

The coal production of our country has been doubling every ten years. This means that the coal production for every ten-year period equals the total coal production of the country for all preceding periods. The coal which will be produced from 1910 to 1920, if the rate of increase of the past fifty years is maintained, will equal the total production of the country prior to 1910.

This statement in *Steam* is an extract from address of Dr. W. F. M. Goss at the Sixth Annual Convention of the International Fuel Association.

### "GOOD UNTIL USED"

One of our fellow manufacturers, whose lubricating greases are widely and favorably known, found among the discarded cups in the cup department an old time cup filled with his make of grease. The cup was twenty-five or thirty years old and the grease in it was soft and sweet. They now advertise their lubricating grease "is good until used."

There are many things that are "good until used" and not much good afterward. Dixon's Graphite Grease is good until it is used, good while it is used, good after it is used, and good all the time. We believe our friend's grease is also good beyond the point he states and that he should change his copy.

### AFTER TWENTY-TWO YEARS

"I'm taking a chance," writes a reader of *Youth's Companion*, and with his letter we found not only sixteen cents in stamps for samples of Dixon's American Graphite Pencils, but an advertisement "which you see is old enough to vote," clipped from the October 20, 1892, issue of the *Youth's Companion*.

Who shall declare the life of an advertisement when proof like this of eternal youth is proclaimed!

Our correspondent's faith was rewarded "as per advertisement" with samples worth double his money.

CIVILIZATION often rushes in where barbarism fears to tread.

—*Kreolite News.*

**ANOTHER JUST TESTIMONIAL**

The illustration on the cover is an excellent one of the 300,000 cubic foot gas holder of the Bridgeton Gas Light Company, protected with Dixon's Silica-Graphite Paint.

We take much pleasure in quoting description and testimonial of Superintendent J. B. Jones.

**BRIDGETON GAS LIGHT COMPANY,**  
BRIDGETON, N. J., October 27, 1914.

*Joseph Dixon Crucible Company,  
Jersey City, N. J.*

DEAR SIRS:—In answer to your letter of October 26, we are mailing you, under separate cover, photograph of our 300,000 cubic feet capacity gas holder, same was erected by Bartlett, Hayward Company of Baltimore, and painted with Dixon's Silica-Graphite Paint, Olive Green.

The holder is located near the residential district of the town and owing to this fact we gave the question of paint considerable thought. After testing several colors and makes of paint the final choice was made as above stated, owing to its appearance and length of preservation. The color chosen met with approval in the community and favorable comments have been received freely from the general public.

Yours very truly,  
**BRIDGETON GAS LIGHT COMPANY,**  
(Signed) JACOB B. JONES, *Supt.*

**BECOMING A LEADER**

We hear a great deal about "faithful service," but it should be borne in mind that "faithful service" alone will not lead to promotion. There are any number of men who are now in the twilight of their days who have been performing "faithful service" for many a long year but who are practically in the same position that they were twenty-five years ago. It is true that they may be getting a larger salary, but the position is the same and they have received increased pay because of long service and not because of a much greater value of their service. When they die their places will be filled by men at one-half the pay and the work will be done just as well and just a faithfully performed. Men are naturally honest and faithful. It is only when some strong temptation comes that they are led astray.

But to become a leader or the head of a department a man must be not only faithful, but forceful and progressive. If he proves his fitness for a higher position he will get it in due time. If not, he will either be dropped or he will keep in the same old groove until death finds him at the same old job or until he is put on the pension list for "faithful service."

Every great railway company or corporation desires to have their men promoted. A man who rises from the ranks and knows the business from the lowest ground up is the most valuable man.

Before a man can become a leader or the head of a department, he must acquire the one habit that is characteristic of all leaders—the habit of making good. Making good does not mean doing your work so that it will be approved. The work must be done so that it will not only be done well, but nothing from it will "come back" for criticism.

A man should strive to improve the methods by which his work is done. A man should study the methods of men above

him who have won their positions by ability. A man must work, he must develop his mind, he must study all things that will make him more valuable to his company, he must take care of his health, he must be honest with all men and particularly with himself, he must know his own business and he should keep himself posted on all competing lines of business.

**WHY AND HOW**

A hard-headed Oregon farmer, a man surcharged with common sense, said: "'Why' is 100 per cent better than 'How.'"

Yes, but "Why?" is no earthly good without the "How", and the "How" may be a lot of good without the "Why?" It is worth a lot to know how to divide by a fraction, even if you do not fully know "Why?"

There is a lot of good in knowing how to plant corn, even if you do not fully understand why it grows.

It is worth while to know how to utilize the laws of gravitation even if you don't know why the laws of gravitation are as they are.

It is interesting to know how to turn the electric switch even if you do not know all about why the light flashes as you turn it.

There's a world of satisfaction in the use of flake graphite as a lubricant, but comparatively few of the thousands who are using this wonderful material have a scientific knowledge of its application as a lubricant.

We sometimes undervalue the why, but we must never fail to appreciate the vital significance of the how.

—Adapted from the *American Primary Teacher*.

**TO THE POINT**

Said the pencil, being sharpened by the pretty new stenographer: "There's a divinity that shapes our ends."



OLD JERRY says, "any crucible  
can make good in th' sprints but it  
takes a

**DIXON CRUCIBLE**

every time to win in th' final heat."

Booklet No. 190-A, on request.

**JOSEPH DIXON CRUCIBLE CO.**  
JERSEY CITY, N. J.

## THE ELECTROTYPE PROCESS OF WET GRAPHITING

In a recent issue of *GRAPHITE* an article, descriptive of one of the new wet graphiting machines, brought from Messrs. Van Leyen & Hensler, engravers and electrotypers of Detroit, Mich., the suggestion of giving a short account of the development of wet graphiting, a process which at present is being much discussed by electrotypers throughout the country. In following out this suggestion we solicited from Mr. William Hughes, editor and publisher of *The Engraver and Electrotyper*, the following description. Mr. Hughes is an authority upon the subjects of engraving and electrotyping and his presentation of this subject is as interesting as it is instructive.

### GENESIS OF ELECTROTYPEING

Dr. M. H. Jacobi, of St. Petersburg, Russia, discovered, seventy-six years ago, that copper could be deposited electrically on engravings to reproduce them reversely in the minutest details; and his discovery was announced in the St. Petersburg Academy of Sciences in the Spring of 1838. But news traveled slowly in those days; and a year elapsed before it reached London. A report thereof appeared in *The Athenaeum* of May 4, 1839. Thereupon Thomas Spencer of Liverpool and C. J. Jordan of London, England, busied themselves in explaining that each of them, separately, had made the discovery ahead of the Russian. In the mean time the Emperor of Russia, Nicholas I., had become so much interested that he authorized Jacobi to make requisitions on the treasury for all the money he might require to perfect his invention. He failed to get beyond the original discovery that copper could be deposited electrically on an intaglio-engraved plate, as copper shells are now deposited, but he continued the depositing for so long that it had the thickness of a printing plate in itself. But he could not separate the deposited plate from the original without destroying one or the other or both; otherwise his proposition was to use the first deposited plate as a matrix for depositing a second plate, to be a duplicate of the original, for printing. But he was nonplussed by the "seizing" power of the adhesion between the first deposited plate and the original engraving. In desperation (after working at it for a full year), and as a last resort, Dr. Jocobi appealed to the famous electrician Michael Faraday, in a letter dated St. Petersburg, June 21, 1839, in which he said that "by a fortunate accident" he had discovered that "the most delicate and even microscopic lines" could be reproduced perfectly on copper deposited on the engraved plate, but the "reduced copper" he had not been able to separate from the original plate intact—and he could not understand why.

What Faraday said or did in response to Jacobi's letter has not come within the scope of our observations. And it does not appear that practical electrotypes were made before the application of "blacklead" to wax molds in 1840. The blackleading process has continued to this day—with variations in the methods of applying the graphite to the molds. At first it was applied with a hand brush; and there are old-fashioned electrotypers in Germany who still maintain that blackleading the mold is best done by hand.

The various wet blackleading machines have one essential common to them all—the mixing of water with graphite in the quantitative proportions of two parts of water to one of

graphite. The latter can do its work without the fluid element, but water will not act on the mold as required without the graphite. They failed to make electrotypes until they applied it to the face of the wax mold. They called it blacklead, and for variety "plumbago" (its Latin equivalent), because it adhered and shined like polished blacklead, although it contained no lead. But graphite, by whatever name it may be called, remains king in the electrotyping foundries—"wets" and "dries." By using it mixed with water it preserves the most delicate parts of the finest halftones intact, it is claimed.

### A WET PROCESS OF BLACKLEADING

was resorted to at an early date. The graphite was applied dry, then water was poured over the mold, or the form was dipped in water, the object being to facilitate the even depositing of the reduced copper over the entire surface to be electrotyped.

What is new in the graphiting process is mixing graphite in water, in the ratio of a pint of graphite to every quart of water used and applying the mixture to the mold mechanically. Blackleading machines originated (for dry work) in the United States. The first machines for the purpose were crude affairs. Improvements proceeded towards "efficiency" until brushes were worked so forcefully that electrotypes lost some of the delicate details of fine halftones. Ponderous lead molding machines were introduced to save all details in the finest originals, and to make electrotypes so perfect that the prints therefrom could not be distinguished from prints of the original halftones, it was and is claimed. Claims followed that graphite mixed in water, applied gently to the molds, would insure equally good results.

### "KEEPING EVERLASTINGLY AT IT"

That's a good motto for a victor in any field of endeavor. Flash and dash cannot equal steady, certain quality. It is performance more than promise that counts. Read this letter from B. F. Stinson & Company, the makers of the well known "Easybright" polishes, whose headquarters are at No. 426 Niagara Street, Buffalo N. Y.

"We did use Dixon's Silica-Graphite Paint on our roofs some years ago and have used no other since. We think instead of calling it Dixon's Silica-Graphite Paint, you should call it *Dixon's Everlasting Paint*, as we have never seen anything stand the weather the way this does."

"When we are in the market again, we shall be glad to place our order with you."

When the Dixon Company recommends Dixon's Silica-Graphite Paint as the *longest service* paint, par excellence, we mean it. Our aim and our performance is to render real economy to our friends. We have a record of fifty years and live up to *one quality only*, the *best*, standard.

**THE FRENCHMAN** did not like the look of the barking dog barring his way.

"It's all right," said the host, "don't you know the proverb, 'Barking dogs never bite?'"

"Ah, yes," said the Frenchman, "I know ze proverbe, you know ze proverbe; but ze dog—does he know ze proverbe?"

### FOR LEAKING VALVE CAPS

Motoring Department, *The New York Globe*:—

Please advise me whether there is on the market a compound of any kind which can be used on the valve caps of an automobile engine. I have placed new gaskets in my valve caps and no matter how tight the caps are screwed down there seems to be a leak. The thread on the caps is rather coarse, and I would like to know what compound to use so that the leak can be stopped and yet the caps not burn fast.—M. T.

Make a heavy paste from flake graphite and shellac. Apply this freely over all the threads and on the shoulder of the caps. Use plenty of graphite. This compound should prevent any leaks past the threads and yet should not allow the cap to burn fast. This mixture is used freely in repair shops where such troubles arise.

### SELF-RELIANCE

The following message of inspiration comes from our Buffalo office. The selection is made by Mr. John A. Condit, manager.

It is not birth, nor rank, nor state;  
'Tis git-up-and-git that makes men great.  
In battle or business, wherever the game,  
In law or in love, it is ever the same;  
In the struggle for power or scramble for pelf  
Let this be your motto: "Rely on yourself,"  
For whether the prize be a ribbon or throne,  
The victor is he who can go it alone.—SAXE.

### DOES THIS SUGGEST SOMETHING YOU HAVE OVERLOOKED?

UNION SPRINGS LIGHT AND POWER COMPANY  
UNION SPRINGS, N. Y.

GENTLEMEN:—Please send to the Union Springs L. & P. Company ten pounds of Dixon's No. 1 Flake Graphite, as we are now using the same in our cylinders and find it superior to cylinder oil that costs us eighty cents per gallon, and our engines work far better and smoother with Dixon's Graphite. Use your own judgment as to shipment, express or parcels post.

Yours respectfully,  
(Signed) F. L. EGLESTON.

### IT CAN'T BE DONE

A red-headed boy applied for a job in a butcher shop.  
"What can you do?" the boss inquired.  
"Anything at all," replied the boy. "How much will you give me?"  
"Three dollars a week, but what can you do to make yourself useful around a butcher shop?"  
"Anything."  
"Well, be specific. Can you dress a chicken?"  
"Not on three dollars a week," said the boy.

PARADOXICAL as it may seem, every new automobile is headed for the scrap heap as soon as it starts out. Dixon's Graphite Lubricants improve and increase power, speed and easy running, and yet an automobile lubricated with Dixon's Graphite Lubricants is the very last one to get there.

### A MESSAGE FROM CUBA

"Please send me at the earliest date possible a sample of your Dixon's Graphite Grease No. 675 for differentials and No. 677 for transmissions; also your lubricating chart with price list.

"I have just arrived from the States (New York), where I purchased a 1914 Cadillac and that was the lubricant they recommended to me, so I do not want to use any other.

"In regards to the sample, I only want, say a half an ounce, just enough to give me an idea of what it is like, as it is a very common thing in this country to give you *substitutes* and that is what I am trying to avoid.

"Trusting that you will let me hear from you by return mail, I am,

Yours very truly,  
CARLOS A. ARANGO."

SANTIAGO DE CUBA, June 24, 1914.

### THE LITTLE RED HEN

By ROBERT SEAVER

The Little Red Hen had some kernels of corn .

She wanted to plant in a row.  
She asked Mr. Piggy, Miss Goose and Miss Duck  
To help, but they answered, "Oh, no!"  
"Not I!" said the Goose, and "Not I!" said the Duck,  
While Piggy just ran off and hid.  
"All right," said the Hen. "If you won't, why, you won't.  
I will plant it myself." And she did.

When the corn was all ripe, "Who will take it today,"  
Said the Little Red Hen, "to the mill?

Won't somebody offer to carry the bag?  
I will be much obliged if you will."  
"Not I!" said the Goose, and "Not I!" said the Duck—  
While Piggy just ran off and hid.  
"All right," said the Hen, "if you won't, why, you won't.  
I will take it myself." And she did.

When she brought home the meal, said the Little Red Hen  
"Won't somebody help make the bread?"

But nobody offered to help her a bit,  
And this is what each of them said:  
"Not I!" said the Goose, and "Not I!" said the Duck—  
While Piggy just ran off and hid.  
"All right," said the Hen, "if you won't, why, you won't.  
I will bake it myself." And she did.

The Little Red Hen baked the loaf all herself.  
At last it was ready to eat.

The others looked on as she buttered a slice,  
And crowded around at her feet.  
"I'll help you eat it!" said Goosie and Duck.  
"And I!" Piggy said with a grunt.  
"Oh, thank you so much," said the Little Red Hen,  
"But I have an idea you won't." And they didn't.  
—*Youth's Companion.*

"I WOULD be very much pleased to have a copy of the Dixon booklet, "Useful Spanish Words and Phrases." We sell lots of Dixon's Pencils and I know if the booklet is as good as your pencils it will be worth having."—R. C. MESTER.

**WISDOM FROM THE CORNER GROCER**

A grocery man said to the writer the other day that stove polish and breakfast foods were in the same class. When asked to explain, he replied that the housewife had given up the good old substantial and lasting Dixon's Stove Polish for either the paste or the liquid polish, because it was so much easier to apply the paste or the liquid than it was to rub up her stove thoroughly with Dixon's Carburet of Iron, even though the end justified the small amount of extra labor.

So it was with breakfast foods. The modern housewife considers it far easier to serve the partially cooked or ready-prepared breakfast foods than it was to cook the more nourishing and far cheaper old time corn or oat meal.

"And do you know," said this grocery man, "that our women folks are getting to be just as lazy as they dare to be, and by-and-by, when they get woman's suffrage, the ordinary man won't have a barrel-head to sit on."

**HIGH COST OF AUTO TIRES**

At a recent meeting of the Society of Automobile Engineers, the representative of a tire company said that flake graphite is undoubtedly the best lubricant to prevent chafing between the tube and the casing, but that the graphite is objectionable because it is so dirty. Freely translated, this statement may mean that the car owner need not use flake graphite if he does not object to the purchase of an inner tube or two more than seems necessary.

**TEDIOUS TRAIN RIDE**

It was a long-suffering traveler on a little single-track railroad, and he complained bitterly about the lateness of the train and the irregularity of the service. The employé remonstrated in virtuous indignation. "I've been on this here line, sir," he began, "upwards of eight years and—" "Have you, indeed?" interrupted the traveler, sympathetically. "At what station did you get on?"

*—Railway and Locomotive Engineering.*

**OUR BROTHERS WHO SPEAK ANOTHER LANGUAGE**

It is said that there are foreign language newspapers published in twenty-nine different languages in the United States, and that there are in the United States 13,345,545 foreign born men, women and children and 18,895,875 people whose parents are foreign born, or thirty three per cent of the total population.

These people are earning American wages—are thrifty home builders and their tastes and needs are rapidly being Americanized.

"I JUST received the "Useful Spanish Words and Phrases" and find it a very interesting and useful pamphlet. I feel sure that many of our teachers will be interested in this pamphlet if you care to send additional copies to be distributed. We have 142 teachers in all."—*From a School Superintendent.*



"Book learnin,'" said Old Jerry, "is somethin' I never took no stock in afore I wrote for this here

**Graphite Products for the Railroad**

**MADE IN JERSEY CITY**

Then I begins to take on some notions about protective paint, lubricants an' other things that made th' boss sit up an' take notice."

**JOSEPH DIXON CRUCIBLE COMPANY**

**Makers of Paint, Pencils, Crucibles, Lubricants and other Graphite Products**



**JERSEY CITY, N. J.**

**ESTABLISHED 1827**

GR

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UNIVERSITY OF THE  
STATE OF ILLINOIS  
6 FEB 1915

# Graphite

Issued in the interest of Dixon's Graphite Productions, and for the purpose of establishing a better understanding in regard to the different forms of Graphite and their respective uses.

Vol. XVII

February, 1915

No. 2



This picture is symbolic of the strong, sturdy leads to be found in Dixon's American Graphite Pencils. The picture is in imitation of a wood engraving and is from Dixon's Pencil Geography

ESTABLISHED 1827



INCORPORATED 1868



## JOSEPH DIXON CRUCIBLE CO.

JERSEY CITY, N. J., U. S. A.

**Miners, Importers and Manufacturers of Graphite,  
Plumbago, Black Lead.**

### OFFICERS:

*President*—GEORGE T. SMITH  
*Vice President*—GEORGE E. LONG  
*Secretary*—HARRY DAILEY  
*Treasurer*—J. H. SCHERMERHORN  
*Ass't Sec'y & Ass't Treas.*—ALBERT NORRIS

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 For all Products Except Dixon's American Graphite Pencils  
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 National Paper and Type Company, 31-35 Burling Slip, New York  
 With Branch Agencies in Mexico, Cuba, Peru, Argentine,  
 Uruguay, Venezuela, Porto Rico and Columbia

### JUST A PARAGRAPHITE

When we think of leaky pens, ink blots, soiled paper and clothing, and when we think of the bloody swords in Europe, it tends to strengthen our belief that a Dixon Pencil is mightier than either the pen or sword.

### AMERICAN GOODS IN SOUTH AMERICA

It makes no difference where the market may be, the invariable reply to our inquiry is of the following tenor: "Up to the present, German-made goods have almost entirely dominated the local market, from great engineering enterprises and plants down to tooth brushes and shoe creams. The Germans built up this market by careful study, judicious advertising, and care in appointing agents and meeting the needs of the markets."

The following comes to us from a correspondent in Chile, who is an observing and discerning citizen of the United States and in a position to know whereof he writes:

"No inquiries are being made at present about American goods. All business is completely paralyzed. Importations are on a limited scale. The merchants are in a very critical position, no sales being made and public works of all classes suspended. Dixon's products are well known in this market. The Germans are our greatest competitors, and as the large commercial firms are mostly Germans they give preference to their own wares. On a line of more than one thousand miles in the south of Chile they are the principal distributors of general merchandise. They have completely routed out the Chilian in his own country in the sale of general merchandise. There are no English stores of this class in the south of Chile, which is a rich agricultural and mineral region. Formerly, in years past, the Americans were well represented, but today the American is becoming a rare subject, like the American flag, which is scarcely seen in Chile. In my opinion as far as I can see and understand, South America will be completely Germanized."

It will at least serve to show that commercial trade is a matter of growth. First the ground must be selected, then prepared, the seed sown and cultivation carried on, then the field must be watched that no trespasses may take advantage, and in due time, if everything has gone along properly, we may naturally expect a good crop.

Evidently, from all the letters that we received from South America, the English and the Germans have very thoroughly cultivated and nourished and guarded their commercial trade in South America and have reaped the benefit.

### A FLATTERING ACKNOWLEDGMENT

A publishing company to whom we had sent samples of Dixon's American Graphite Pencils on request, has this to say concerning them:

"Dixon's American Graphite Pencils received, for which you have our hearty thanks.

"We at once put the pencils in active service and tested them thoroughly, and beg to say that we regard them as decidedly the best pencils for all uses that we have ever had the good fortune to use. The Dixon pencils possess an unusual interest to us because of the fact that they are the result of purely home industry, aside from their intrinsic worth; and we trust that you will in time reap a rich reward for the skill, capital, energy and perseverance you have had to invest in your enterprise to bring it to such perfection and proportion.

"For toughness of lead, uniformity in hardness, great beauty of finish, and capacity for resisting the usual liability to break or crumble, Dixon's American Graphite Pencils are certainly unsurpassed."



#### CALEB BRAGG, A GRAND PRIZE RACE WINNER

To see Caleb Bragg outside of a racing car it would be hard to conceive the slender youth as a racing pilot, but he has gained a reputation as one of the most hardy as well as one of the most fearless drivers. Early in his career, however, Bragg demonstrated his ability to defeat time in an automobile. He handed the veteran Barney Oldfield one of the lickings of the latter's life on the Los Angeles Motordrome, after which no one denied him the rank and reputation so speedily acquired and which has since become enhanced by other victories.

Ralph DePalma relates in *Collier's* one of the most thrilling experiences of Bragg. DePalma says that "a close call for 'Caley' Bragg took place at Brighton Beach five years ago. Caley, who is a great little driver, was driving a ninety horse-power racer which was quite heavy. Pulling into the stretch on the first lap of a five-mile event, his car skidded around at right angles and shot squarely through the infield fence—right between two fence posts. Caley applied the brakes, but the car was going with such force that they had no appreciable effect. He knocked over an oil barrel and the first thing he knew his car had swerved around and plunged through the fence again right between two other posts and out onto the track. It all happened in less than a second, so, without further attempting to stop, he kept right on going and had the fun of catching the other fellows and winning that race. The spectators thought it was clever maneuvering on Caley's part, but the driver declares it was all pure luck that the car swung back to the course as it did."

Aside from numerous other victories, Bragg, in 1912, won the Grand Prize Race. To his credit also are the speedway

records (regardless of class) for the two, three, four and five mile distances. These latter records are officially allowed and accepted by the Contest Board of the A. A. A.

Like other speed kings reputed for their determination to take no chances on poor material and perhaps lose a race, Caleb Bragg believes that the best is none too good. In a characteristic letter to the Joseph Dixon Crucible Company he writes: "Being skeptical at first, but willing to try anything once, I tried Dixon's Graphite Automobile Lubricants and after three years of constant use in racing and pleasure cars, I feel that perfect lubrication can be obtained only by the proper use of Dixon's Graphite Automobile Lubricants in everything that moves—from motor to tires."

#### POOR MEXICO

How up-to-date is this sentence from President Buchanan's message found in the copy of a newspaper dated December 28, 1859:

"I regret to inform you that there has been no improvement in the affairs of Mexico since my last annual message, and I am again obliged to ask the attention of Congress to the unhappy condition of that Republic."

AFTER working thirty-seven minutes trying to get your stalled automobile engine going again, it pleases you beyond words to have your wife ask from the back seat, "Do you think you could fix it, dear, if you knew what was the matter with it?"—*Common Sense*.



**IRON FENCE, AMERICAN REFORMED CHURCH,  
NEWBURGH, NEW YORK**

The above illustration shows the American Reformed Church in the noted historic city of Newburgh on the Hudson.

The iron fence is protected with Dixon's Silica-Graphite Paint, applied by Messrs. Beggs Brothers of Newburgh.

Dixon's Paint is widely used for this purpose on church and cemetery properties all over the country, because it saves the Church Boards money, the paint giving the *longest service* of any protective paint for iron or metal work. Properly applied it sticks. It is made in *one grade only—the best*.

**FROM AN OLD READER OF "GRAPHITE"**

When we hear from a reader of GRAPHITE who has experienced the satisfaction of using the products which make GRAPHITE possible and worth reading, we are reminded that GRAPHITE is something more than just so much paper and ink. It is an added pleasure to hear from a man like Mr. Frank Phelps, engineer, machinist, builder and contractor. Mr. Phelps writes from Fort Bayard, New Mexico:

"I have had the pleasure of reading GRAPHITE for a number of years. From the standpoint of an engineer I can say that it is a valuable publication to any man engaged in any mechanical work. I take pleasure in recommending it and in always recommending Dixon's Flake Graphite Lubricants for use on the machinery after putting up a windmill or pumping plant of any kind. In railroad work I always carried Dixon's on my engine and never had any trouble from hot pins or bearings."

"I KEENLY enjoy reading GRAPHITE each month from cover to cover and always pass it along to some friend who will be pleased with its contents also. I have had my name on your mailing list since 1906."—THAD B. TOBEY, Passaic, N. J.

**NEVER WORRY**

There died in Cuba sometime ago a man who was reported to be 150 years old. Whether he was that old or not, he was certainly considerably beyond the century mark and according to the *Havana Daily Post* he is said to have ascribed his long life to the fact that he never as long as he could remember ever worried. Though crippled in his later days to a large extent, his cheery smile was always present.

Lately in New York a woman died who was said to be 117 years of age. She emigrated to the United States when at the age of sixty years and shortly after fell sick and was told by physicians that she was near the end and should prepare to die. Instead of worrying over this apparent sentence of death passed on her, this woman with her own hands made her shroud and comforted herself with the thought that if death did come she would be prepared to meet it. But she did not die until fifty-seven years later. There never was a truer saying than the one "that while there is life there is hope," and let us all bear it in mind. If we do it this year the probabilities are that we will do so in the forthcoming ones and will all live longer and better for it.

Physicians tell us that there are few things that so sap the vitality as constant worrying. Worrying over having some disease, many physicians say, aggravates the disease and often times does more harm than the disease itself. Worrying over one's business affairs, instead of doing good incapacitates one and makes it all the more difficult to face the affairs of life with the clear-headedness that is necessary for success.

**DEVOURED TOO MANY PENCILS**

When the installation of lead pencil sharpeners in its many offices was estimated by the management of a large railroad to cause the waste of five miles of pencils a year, the machines were promptly removed.



#### A JUST TESTIMONIAL

We take pleasure in illustrating above the tanks of the Sheepscot Island Company, MacMahan Island, which structures are painted with Dixon's Silica-Graphite Paint.

We quote the testimonial of Superintendent Frank L. Ryder as follows:

SHEEPSCOT ISLAND COMPANY,  
MACMAHAN, Maine, October 10, 1914.

*Joseph Dixon Crucible Company,  
Boston, Mass.*

GENTLEMEN:—I take pleasure in advising you of the excellent service rendered by Dixon's Silica-Graphite Paint on our pump houses, tanks, and ice house at MacMahan Island, Me.

We have used this paint exclusively the past fourteen years and find it superior to any other paint for the protection of our wood work. It is not only very economical, saving in the cost of frequent repainting, but the color is very desirable on the buildings which are used in connection with our summer colony, and where artistic effects have to be considered as well as good wearing qualities.

We specified and used Dixon's Silica-Graphite Paint, Olive Green, this year on our new tanks of 20,000 gallons capacity. The paint not only gives excellent protection to the woodwork, but also to the iron hoops, which is a matter of great importance.

Those who have passed a winter on the Maine coast know how severe the climate is, and how difficult it is to secure paints that wear well. We have tried many kinds of paint, but Dixon's Silica-Graphite Paint is far superior to them all.

Yours very truly,  
(Signed) FRANK L. RYDER, Superintendent.

JUST because a man pays his pew rent promptly is no reason why you should trust him.—*Signal Talk*.

#### "THE PHILOSOPHER-AT-LARGE"

Evidently a Bachelor Philosopher Who Does Not Think a Woman Can Run a Home

The philosopher-at-large tells us that if the ladies attempt the colossal job of running the government for us when they haven't as yet qualified in the two-by-four job of running our individual homes, it will be very much like a joke.

He says: "Examine her with a cold, bargain-counter eye, an eye unclouded by sentiment, and you'll admit that as a business proposition woman is a failure. The most casual student of home-life knows that she has failed in what for countless generations has been her own peculiar sphere. In no division of the field of labor is the work so disorganized, so inefficient as it is in the kitchen patch. Man alone has got to work out the problem of home life and get out of it the kinks."

When we were about to take up the cudgel in defense of the woman, the philosopher held up his finger in a sort-of-wait-a-moment-way and added:

"Grandfather would still be waiting far into the winter for his homespun suit if he had not invented for grandmother the spinning wheel. It was grandfather who took the spinning wheels and the looms out of grandmother's hands and put them into factories. And now in these days, by spending ten or fifteen minutes and as many dollars on a Saturday night, we have our ready-to-wear suits.

"Then grandfather took the knitting needles out of grandmother's hands, and in his factories he wove his own underclothes and socks, mittens and mufflers.

"Then not to be selfish, grandfather took grandmother's dress patterns and dummies from her, and over his store counters gave her gowns and shirtwaists and lingerie and neckwear and bonnets.

"The old oaken bucket sounded very good in song, but grandmother did not love it when she had to plow through the snow or had to wade in the mud to fetch every drop of water for the household. So grandfather built reservoirs and laid pipes, and now grandmother cheerfully hums

"How dear to my heart are the scenes of my childhood" as she turns on the faucet and fills the bathtub.

"Grandmother used to save the tallow and make candles, but what is the use, grandfather has done about everything to make it easy for grandmother with patent wash tubs, clothes wringers and the flatirons, and in his factories bottles her pickles, preserves her fruits, cans her vegetables, jars her jams, souses her mackerel, stews her plum pudding, prepares her breakfast foods and even bakes her bread, cakes and pies, and now grandmother with nothing to do wants to come along and run the government. No wonder grandfather says, Gee! What next?"

"USEFUL Spanish Words and Phrases" is highly appreciated and will be very useful to the writer."—G. E. TREDWAY.

*"The keystone of our economic and fiscal legislation must ever be to preserve unimpaired the integrity of our home industries and the purchasing power of our domestic markets."*

—JOHN HAYS HAMMOND.

## ON CEDAR PENCILS

By "OLD HUMPHREY"

*This article is taken from a book published by Robert Carter, 58 Canal Street, New York, in 1846. The title of the book is "Pithy Papers on Singular Subjects." GRAPHITE is indebted to Mr. Geo. E. B. Putnam, editor of the "Boot and Shoe Recorder," Boston, Mass., to whom we desire to express our sincere thanks.*

Another odd subject, you will say; but if you bear in mind, from what odd and trivial sources many important thoughts, and words, and actions have arisen, you will let me take my course, and in my rambling way prate a little on the subject of cedar pencils. It is the settled conviction of my mind that there is no subject in the wide range of thought that may not, directly or indirectly, be connected with meditations on the divine goodness.

Oh, how much more independent are we frail and feeble creatures for our daily comforts on little things, than we are apt to imagine! What should we do without pins and needles; thread and string; snuffers, penknives and scissors? Were you to deprive me and ten thousand others in the world of our green shades, spectacles, pens, ink, paper, and cedar pencils, it would be like clipping a fish of its fins, or a bird of her wings.

A cedar pencil is to me a thing of value; for without one, how should I note down my passing thoughts in wandering through the highways and byways of life? I have tried all manner of substitutes in vain. Some time ago, I took a standish or inkhorn into the fields and hung it to a button of my waistcoat; but a friend told me that every one I met would take me for an exciseman. My pride—what poor proud creatures we are!—took the alarm and my inkhorn was laid by. I then tried the patent pencil case, which is supplied by points of black lead; but I could not write with them pleasantly, so my patent pencil-case was put aside too. A few weeks ago, I bought one of the pocket fountain pens which, when once properly arranged, enables me by the pressure of my thumb, to obtain a supply of ink to write with in the open air. It cost me sixteen silver shillings, and for the passing hour did very well; but the ink was shortly dried up and then it took me half an hour to render my pocket fountain pen once more fit for service. In short, I was obliged to resume my cedar pencil.

Both the sight and smell of a cedar pencil are pleasant to me, bringing with them, as they do, so many remembrances of my youth, from the time when I first sketched the outline of a gatepost to the day when I finished my *chef d'œuvre* of Conway Castle. Days of my childhood! What a contrast are ye to the present hour! The ruddy-faced boy—the grey-haired old man. The future glided with the bright beams of hope—the past shadowed with the dark clouds of experience. Well! Well!

With shine and shade, with spring and fall—  
Mercy has mingled with them all.

The trade of cedar pencil making is conducted to a considerable extent by the Jewish people; so that in their business, no doubt, they are often carried back in imagination to the goodly groves of Lebanon, and the temple of temples built by Solomon.

How fallen are the Israel of God, and what a lesson do they proclaim to every unbelieving heart! Who hath rebelled

against the Lord with advantage? "Who hath hardened himself against Him and hath prospered?" (Job ix, 4). How many nations have been cut off for their pride and impiety? The mighty of Babylon and Egypt were brought low and the princes of Media and Persia were humbled in the dust. "The Assyrian was a cedar in Lebanon with fair branches, and with a shadowing shroud, and of an high stature; and his top was among the thick boughs. The cedars in the garden of God could not hide him; the fir trees were not like his boughs, and the chestnut trees were not like his branches; nor any tree in the garden of God was like unto him in his beauty. Because thou hast lifted up thyself in height, and he hath shot up his top among the thick boughs, and his heart is lifted up in his height; I have therefore delivered him into the hand of the mighty one of the heathen; he shall surely deal with him: I have driven him out for his wickedness" (Ezek. xxxi), how ought we to pray for the grace of the humility!

The cedar pencil is a light, cleanly and portable appendage, that thousands and tens of thousands carry in their pockets, or their pocket books. The merchant makes with it his memoranda on 'Change; the artist sketches with it the surrounding landscape, amid the lakes and the mountains; the author notes down with it his musing thoughts and wayward fancies on the hill, or in the valley; and tradesmen, of different grades and shades, find a use for it in their several callings.

What a delightful talent is that of representing on canvass or paper the likeness of the persons and things that interest us as we journey on in our pilgrimage to a better world! The camel-hair pencil may be used for this purpose in oil colors and water colors; the pen may be dipped in bistre, Indian red, and common ink; and chalks of different colors are very effective; but neither the pen, the camel-hair pencil, nor chalk are so easily carried about with us, nor are they so ready to use at the instant required, as the cedar pencil. I have a keen gratification in drawings and etchings; and in a season of leisure could turn over a portfolio by the hour, whether filled with specimens good, bad, or indifferent, from the free and fiery sketches of Raffaelle and Michael Angelo, to the tame scrawls in the trumpery bag of Old Humphrey.

What goodly drawings have I seen executed with a cedar pencil! Again I say, that I am fond of things of this kind; and while I gaze on them with admiration for the skill of the artist, I go a little farther. I think of him who, in his wisdom, mingled the minerals of the earth, so as to enable his creatures to make so useful a thing as a pencil. All things were made by him, I thank him for every gift, and among them for that which he has thus provided.

A friend of mine thinks, and I think with him, that some clever, ingenious pencil case maker might, with some little trouble, improve upon the cases now in use. It often tries my temper, which, to my shame and sorrow, is sadly too hasty, and ought not to be tried by such trifling things. It often tries my temper when I have to trim up the blunt end of my cedar pencil, and screw it into the sliding ring inside the case; out of which, perhaps, it falls again in half an hour; and then, the worst of it is, that with such repeated shaving and trimming at the wrong end, it soon gets too short to use at the right one, so that, on an average, one-third of my cedar pencil is wasted. Come! all ye free-hearted and fine-spirited ingenious pencil case makers, see what you can do. I freely offer you a premi-

um for an improvement. The very first of you that succeeds in giving to the public an improved pencil case, in which less of the pencil is wasted, shall have—I cannot with convenience say a hundred pounds, nor yet fifty; but you shall have instead, the hearty thanks of Old Humphrey.

It ought to be known that such of my ink-sheddings as meet the public eye, poor as they are, would be a good deal worse, did they not occasionally receive the corrections and curtailments of a judicious friend. His cedar pencil is often put in requisition to blot out my defective opinions and crude conclusions.

It was but the other day, that we were sitting together at a table well covered with books and manuscripts at his own habitation. The word of God had been read, we had been on our knees together, and a prayer had ascended to the throne that angels gaze upon with holy joy.

The room, for I love to sketch a picture, was a pleasant one, and its furniture in keeping one part with another. It manifested a distaste for finery and show, and a just appreciation of the substantial comforts, and useful refinements of civilized society. On the chimney piece stood a time piece, à la Egyptienne, with a sphinx on the top and pillars in relief at the corners. This bore an inscription setting forth that it was the respectful tribute of a few grateful sunday school teachers, for the long and valued services of him to whom it was presented. Another part of the present consisted of two Egyptian ornaments of the Cleopatra needle kind, facsimiles of ancient sculpturings, with hieroglyphics from top to bottom. There were also two chalices, of the same form that I could imagine those to have been which were taken from the temple of Jerusalem; out of which the impious Belshazzar drank wine, when he praised the gods of gold and of silver, of brass, of wood and of stone.

These were the shiny parts of the room; now for the shadowy. In one of the recesses, pushed back as though they were not to be noticed, stood a pill-box, a medicine bottle and a wine glass. How mute and yet how eloquent! They told a tale, that he who runs might read—a tale of life to which none but a fool would refuse to listen with attention.

Well! as I said, we were sitting together at a table well covered with manuscripts, and my friend, with his cedar pencil in his dexter hand, had a manuscript of mine before him. I looked over his shoulder as he dashed his pencil most remorselessly across first one passage and then another. At last he came to what I, in my poor notions, had regarded as a sort of climax of all that was eloquent and excellent; when, to my surprise, his ready pencil went through the whole passage in a twinkling; not with a faint, lightly drawn line, intimating that the case was a little doubtful, but with a black, bold, resolute and orthodox dash, putting it, as it were, beyond the possibility to restore it.

"Stop, stop!" cried I, "why, that is one of my toppers!" However, it was all in vain, for not only was I compelled to witness the extinction of my favorite passage, but, alas! at last to acknowledge that its annihilation was just.

Since writing the above, my friend, who has been looking over my remarks, has given me the following additional rap on the knuckles with his cedar pencil. "They who undertake to give information to others, friend Humphrey, should, at least, be careful that their own information is correct. Cedar pencils are not made of the wood of the cedar of Lebanon, as

you appear to suppose, but of the red cedar, a species of juniper or pine, which grows in North America and the West Indies."

On examining the subject more narrowly, I find, as I have often found on such occasions, that he is right, and that I am wrong. The wood of the red cedar is commoner than that of the cedar of Lebanon; its softness, powerful odor, and property of resisting insects, render it very suitable for the purpose.

The plumbago, or black lead, used in cedar pencils, is found in Cumberland and in several parts of the continent of America.

I could run on a long time on the subject of cedar pencils; but as it might not be so pleasant to you as to myself, we will now bring things to a close. Whatever may be our possessions and our powers, they are the gifts of God, and as such should be thankfully acknowledged. Be it little or much, that we call our own, by and by it will signify but little. The ungodly possessor of a lead mine and a grove of cedars may be envied for his wealth; but give me, as a much more valuable heritage, a grateful heart and a cedar pencil.

#### TROUBLES

An American girl in Europe, whose plans were interrupted by the war, was making her way to the coast in a tedious and not very well equipped refugee train. Her personal disappointments had so worn upon her that she could repress no longer her pent-up feelings. She said: "Just to think of it, I have not been able to wash my face for thirteen hours. I haven't had a decent meal for a week, and I never expect to see again two of my trunks."

There was a moment's silence in the compartment and then a military officer said very quietly:

"I am indeed sorry for you, madam. We are all having our troubles during these days of terrible war. I myself have just lost two sons who were killed fighting for their country, and I am carrying the news of their death to their mother."

He spoke with the utmost courtesy, but with the sharp bereavement of a tender-hearted father. The contrast between this father's loss and woe compared with her own little troubles caused the young woman to burst into tears and, to do her credit, be it said, she humbly begged his pardon for her outburst of a moment before.

"What business have we," remarks *The Congregationalist*, "to emphasize to ourselves or before others the minor trials and tribulations we encounter along the daily pathway when the soil of Europe is being soaked with the blood of her choicest sons? Even real sorrows may be mitigated by the thought of the agony from which we are exempted."

"Hard it is to bid the last farewell to a loved one, but when we can do that in a sick room provided with every comfort and under some dear family roof, the pain of separation cannot be as great as when the dying one bleeds his life out in some trench or thicket a thousand miles away from all who are dear and near to him."

"Nothing dispels a little trouble so quickly as the coming of a greater one. We wonder, then, why we ever fussed and fumed over trifles."

IT IS ONLY necessary to try Dixon's Flake Graphite as a lubricant to realize that there are two kinds,—Dixon's and others.



#### HELPS TO SELL "ELDORADO" PENCILS

Possibly a good reason why more pencils are not sold is the difficulty of displaying them to good advantage. This difficulty, it is believed, is either greatly or entirely overcome by the use of a new Dixon display or selling case now being marketed.

This case consists of a skeletonized, gold-bronze metal frame, of a size suitable for placing on top of a show case.

Unlike the ordinary, unsanitary, dust collecting wooden display case which does not display its contents, the new Dixon's No. 1180 is made with glass panels at sides, top and back, and reflects the light in bright, attractive colors. Its contents may be seen from almost any angle of vision. The case is surmounted with a removable frame within which a display card of Dixon's "Eldorado" Pencils is inserted.

The case contains one dozen each of the fourteen perfect grades of the Dixon American Graphite "Eldorado" Pencils, arranged upon seven removable, slanting trays. The trays are divided in the center so that each side of one tray contains a dozen pencils of a particular grade.

Before each tray and on either side of the glass panel in front, appear two rows of bronzed figures and letters to indicate the grade and position of the pencils within.

This display case enables the stationer to replenish his stock of Eldorado Pencils with only such grades as are in most demand, and to watch more easily the supply of such grades that are seldom called for. Within each case, at the bottom, is a sheet of drawing paper explaining the work for which each grade of Eldorado Pencil is suited. This will be found an invaluable aid to both the salesman and the purchaser, who are all too often unable to either offer the right grade of pencil or to explain which grade is desired.

In order to facilitate satisfactory sales, one pencil in each of the fourteen grades is sharpened so that a customer not being familiar with the grade numbers may determine for himself upon the back of the instruction sheet which is printed upon a good quality of drawing paper, whether or not he is getting just the grade of pencil he wants.

Each selling case is securely packed for shipment and is guaranteed to arrive at destination without breaking. For price and any further description of this new and attractive display case of Dixon's "Eldorado" Pencils, the Joseph Dixon Crucible Company, Jersey City, N. J., will gladly respond to all inquiries.

#### AN EDITOR'S ACKNOWLEDGMENT

*Of a Remembrance of His "Journeying Through the Valleys of Literary Shadow and Sunshine"*

For years I placed my trust in an unscrupulous Providence, experiencing nothing but change during this continuous performance of faith. It was a constant fight and I was oft sore driven. There came a day, however, when I encountered the greatest fight—graphite, and now I am lead from year to year, from success to success, through its faithful service.

Graphite changeth not in excellence, endureth all things and boasteth not unduly.

It enableth the timid suitor to smoothly indite his consuming passion to his lady love without the trepidations of speech and regardless of possible ensuing sores through the chafings of the double harness.

Graphite lendeth strength to the arm of the trade warrior in computing his expense account, transforming the losses in the trenches of Kelly Pool into the normal expenditures of street car fares and so forth, emphasizing the "and so forth" with a dignified rotundity of commercial script.

When ink runs dry or clogs the pen  
Remains this faithful friend of men,  
Recording thoughts just as they will  
In imprints clear, or plain, or frill,  
For evermore age-long delight,  
Is found in using it —————

Graphite.

#### WHAT'S IN A PENCIL NAME?

What pencil name suggests hybridity?

What pencil name suggests the hardest and scratchiest substance known?

What pencil name impels the stationer to hand you some tobacco?

What pencil name is "a matter of form" and implies that pencil perfection is only varnish deep?

What pencil name suggests a strong rugged race of men; the early settlers of a country now at war with a people of common origin?

Write us the names of three of these pencils and we will send you the best one among them all.

"WE THINK highly of GRAPHITE. I find it well printed, well edited, well written and—well everything. One of the best house publications I see."—*From a Publisher.*



### LO ACONTECIDO EN INDIANÁPOLIS

Soon after the Fourth Annual 500-Mile International Sweepstakes Race which occurred at Indianapolis on May 30, 1914, hundreds of garages, automobile supply houses and hardware dealers displayed the poster, "What Happened at the Indianapolis Speedway." This poster carried the message of the remarkable fact that forty of the forty-five entrants, twenty-five of the thirty who qualified and nine of the ten winners of this race used Dixon's Graphite Automobile Lubricants. Pictures of the first three winners, as will be noted in the above reproduction, were also displayed.

So popular did this poster become that the Dixon Company upon request of its South American representative, Mr. Alfredo J. Eichler, decided to reproduce it in Spanish with the result shown above. Mr. Eichler has used the poster in many window displays of prominent South American automobile supply houses.

"IF IT IS not too nervy, I ask for one copy of "Useful Spanish Words and Phrases" for each of our schools—two hundred. If you do not care to send so many into one community, send what you think is best."

*—From a School Superintendent.*

### CEASE HOSTILE REGULATIONS

James J. Hill, speaking at a dinner of the Chamber of Commerce at Rochester in December, said:

"The business interests of the country as a whole have been under fire for more than ten years. That attack has steadily increased in violence and decreased in discrimination. The ingenuity of restless minds has taxed itself to invent new restrictions, new regulations, new punishments for guilty and innocent alike.

"When hostile regulation goes to this extent, without promise of a limit to either its objects or its orders, business would come to a halt though tariff rates were raised to the skies and peace prevailed all over the earth. For new plants will not be built, raw material will not be bought, wages cannot be paid unless capital is ready in sufficient quantities to perform the functions that are possible to it alone.

"Capital, until it is invested, is free. The capitalist will not put his money where it brings him a lower rate of return or is subject to more risks than in another occupation or another place. The whole world will presently be bidding for

his available surplus. If under the circumstances existing just before the outbreak of the war business was languid in the United States and industry was descending the slope of depression toward the slough of bad times, because legislation continuously attacked both the profits and the security of capital, what is likely to happen now?

"What we need is rest from agitation, intelligent economy, efficiency, harmonious co-operation for business institutions as well as for political divisions. These are not abstruse ideas. They do not provoke eloquence or attract the self-seeking. They are things as long familiar and as little reverenced by the mass of men as the contents of the Decalogue. We must go back to them or suffer the penalty paid by every creative thing that defies the law of the physical or that of the moral order of the world.

"The President of the United States has recently manifested a desire to aid the business of the country to regain some of its former vigor. If others in public life will aim to give the whole country a chance to adjust itself, and an opportunity to test the new and manifold conditions imposed by recent legislation, the whole country will, with new hope and increasing confidence, step rapidly forward toward the sunshine of commercial peace and national prosperity greater than it has ever known."

### DIXON'S SILICA-GRAphite PAINT IN THE TROPICS

The general superintendent of a Hawaiian railroad has favored us with the following testimonial:

"You will be pleased to hear that Dixon's Silica-Graphite Paint, which we have used on all our steel bridges, has made the best showing of all the paints used by us so far. We still have some of your paint in stock, and while you may not receive any orders in the immediate future, you may rest assured that your paints will receive favorable consideration when our present supply runs out."

Not only in the United States, but in India, the Philippine Islands, Cuba, Panama and other tropical and semi-tropical countries, Dixon's Silica-Graphite Paint is coming into its own as the most favored, most economical and longest service paint for the protection of metal.

**F**OR those who have kept single file copies of GRAPHITE during 1914 and who would like to have an index to the many interesting articles that have appeared therein, we have prepared a four page folder of the same size as GRAPHITE and printed upon the same kind of paper. We shall be very glad to furnish to any reader of GRAPHITE a copy of this index, free upon request.

**JOSEPH DIXON CRUCIBLE CO.,  
JERSEY CITY, N. J.**

# GRAPHITIZED

**A Column of Paragraphites and Dixonized Happenings**

The graphite glide is a Dixon step very pleasing to thousands of engineers who are not obliged to dance attendance upon hot journals.

"Please send me GRAPHITE. I found a copy and was impressed by the information it contained. I am a constant user of Dixon's Pencils and find them to answer all purposes."

The Dixon booklet, "Useful Spanish Words and Phrases" contains quite a fund of useful information of advantage to every one, especially to those who may have occasion to travel in war-ridden Mexico and South America.

A school superintendent writes: "The Dixon booklet, 'Useful Spanish Words and Phrases' was duly received and examined with pleasure. If you are willing to forward two dozen copies, I will distribute them among teachers who will be especially interested."

An engineer who reads GRAPHITE, freely admits that he does not own an automobile but nevertheless returns one of the information cards enclosed in our last issue with the remark that "any old style of graphite—if it is Dixon's—is a friend in hot times."

A facetious reader returns another card with the information that he owns a "Shank's Mare Car," model of 1859. Since his model was "built" over half a century ago and his sense of humor is still well lubricated, we conclude that he has had at least a few experiences with Dixon's Flake Graphite Lubricants.

Another card elicits from R. W. Wright of Buffalo, New York, the information that he has, for thirty years, used Dixon's Flake Graphite Lubricants. He has used flake graphite on all kinds of machinery and in all kinds of places. "Years ago," says Mr. Wright, "in erecting water works machinery, the first thing to go into my outfit was a box of Dixon's Graphite. It has *never failed me*. What more can I say. I used in my Wright Car, model of 1906, Dixon's Lubricants in the transmission, differential, grease cups, bolts, nuts, joints and tubes. My wife says I ought to paint the car with graphite." We think that Mrs. Wright is perhaps a bit too enthusiastic, although for painting all kinds of metal surfaces, such as roofs, fences, tanks, etc., we recommend Dixon's Silica-Graphite Paint.

## IN STOCK

There is a proprietor of a shop in New Haven, a man of most excitable temperament, who is forever scolding his clerks for their indifference in the matter of possible sales.

One day, hearing a clerk say to a customer: "No, we have not had any for a long time," the proprietor, unable to countenance such an admission, began to work himself into the usual rage. Fixing a glassy eye on his clerk, he said to the customer:

"We have plenty in reserve, ma'am, plenty downstairs."

Whereupon the customer looked dazed; and then, to the amazement of the proprietor, burst into hysterical laughter and quit the shop.

"What did she say to you?" demanded the proprietor of the clerk.

"We haven't had any rain lately."—*Harper's Weekly*.

## POSSIBILITIES OF THE AMERICAN BOY

The Children's Aid Society of New York City keeps a record of all waifs. Among the waifs picked up in the streets of New York during more than half a century of the Society's existence, many of them have become prominent. Among them is:

- A Governor of a State,
- Two Members of Congress,
- Two District Attorneys,
- Two Sheriffs,
- Two Mayors,
- A Justice of the Supreme Court,
- Four Judges,
- Two College Professors,
- A Cashier of an Insurance Company,
- Twenty-four Clergymen,
- Seven High School Principals,
- Two School Superintendents,
- An Auditor General of a State,
- Nine Members of State Legislatures,
- Two Artists,
- A Senate Clerk,
- Six Railroad Officials,
- Eighteen Journalists,
- Thirty-four Bankers,
- Nineteen Physicians,
- Thirty-five Lawyers,
- Twelve Postmasters,
- Six Railroad Officials,
- Three Contractors,
- Ninety-seven Teachers,
- Four Civil Engineers,

and any number of business and professional men, clerks, mechanics, farmers and their wives, and others who have acquired property and filled positions of honor and trust. Nor would the roll call be complete without mention of two army officers and 5,000 soldiers and sailors in their country's service.

All these and many more, according to the society's annual report, were rescued from the city streets or from asylums and corrective institutions. They were orphans, "bad boys," vagrants, or embryo criminals before the society took hold of them.

Out of every hundred boys whom the society has helped, fewer than four have turned out failures, according to the records. Only one has committed some petty crime and been arrested. The statistics and the records of the society are of especial interest and they go to prove beyond dispute that if a boy has anything in him, there is every possibility of his becoming an honored member of society no matter what his origin may be.

## "ADDRESSED TO OUTSIDERS"

If everyone thought as much of Dixon's Silica-Graphite Paint as the steady users of this paint have thought of it for fifty years, there would be no need of this aphoristic sentence, addressed to "outsiders." MORAL: Join the Dixon Silica-Graphite Paint Club.

GOVERNMENT experts after tests have decided that juniper wood is the most available substitute for the rapidly disappearing red cedar for lead pencils.

### A NEW DIXON CRUCIBLE BOOKLET

This reproduction of the cover design from a new edition of the booklet, "Dixon's Graphite Crucibles," is merely suggestive of the valuable information contained in the sixteen pages that follow. In addition to a preface and the table of crucible sizes, information is furnished of steel melting crucibles, file crucibles, crucible covers, tilting furnace crucibles, retorts, bottom-pour crucibles, stirrers, skimmers, dippers and self-skimming crucibles. Some good advice is given in the two pages of "For Oil Furnaces" and "General Hints." Foundry facings and a highly refractory cement for the repair of worn or cracked firebrick are also described. Altogether this little booklet is most worth while to the man interested in the subject of better foundry practice. A copy is sent gratis to those who take the trouble of writing for it.



### A REAL REPUTATION

"Skyrockets make considerable noise and a beautiful display for a few moments. But their useless sticks fall to the ground with a dull thud. The fixed star, however, is always there and genuine, because natural, and we know it is there even on cloudy nights. It is there as a lasting guide."

The above is quoted from the *Manufacturers Record of Baltimore*, and it ably crystalizes the philosophy and practice of the Dixon Crucible Company in making Dixon's Silica-Graphite Paint.

For fifty years we have aimed to make the best, *longest service* paint for metal, and now the result of a real reputation is apparent by the orders we receive from all over the world, including India, Philippine Islands, Panama, South America, Porto Rico, Cuba, etc.

Leading railroads, after exhaustive tests, have specified Dixon's Silica-Graphite Paint as their standard maintenance paint.

### SLOW PROGRESS

A regiment of regulars was making a long, dusty march across the rolling prairie land of Montana. It was a hot, blistering day and the men, longing for water and rest, were impatient to reach the next town.

A rancher rode past.

"Say, friend," called out one of the men, "how far is it to the next town?"

"Oh, a matter of two miles or so, I reckon," called back the rancher. Another hour dragged by, and another rancher was encountered.

"How far to the next town?" the men asked him eagerly.

"Oh, a good two miles."

A weary half hour longer of marching and then a third rancher.

"Hey, how far's the next town?"

"Not far," was the encouraging answer. "Only about two miles."

"Well," sighed the optimistic sergeant, "thank goodness, we're holdin' our own anyhow!"

—Pittsburgh Chronicle Telegraph.

### ANOTHER TESTIMONIAL

We are much pleased to receive the following testimonial from Mr. Samuel H. Williams, Fairton, N. J.

"I am pleased to give you my experience regarding the use of Dixon's Silica-Graphite Paint. I began using it over twenty years ago. After giving it due trial I have used no other paint for tin or iron. I have painted a great many roofs and a great many iron fences. Dixon's Paint always looks well and gives long service, preserving the tin and iron. When asked about roof paint I always recommend Dixon's Paint as the best paint that I know, and I now cheerfully do so in this letter."

### THE PEN AND PENCIL

The following sketch was written by a ninth grade school pupil.

One morning before school began, I was sitting at my desk when suddenly I heard quite a commotion. I raised the cover and to my great surprise there was my pen and my pencil quarreling. I listened attentively to their conversation and this is what I heard:

"What good are you?" asked the pencil of the pen.

"Well, do tell me of what use you are," replied the pen.

"People can use me in sketching and drawing," retorted the pencil, and so saying showed the pen a sketch of what he called a horse and wagon.

"I see only a horse," said the pen, "why haven't you drawn the wagon?"

"Oh, I let the horse draw the wagon," returned the pencil pointedly.

Just then the school bell rang. I could not listen to them longer, so I do not know what reply the pen made.

—Brockton School Helper.

**F**AULTY lubrication is speeding your car to the junk pile, via the Friction Route.

### DIXON'S Graphite Grease 677

For Transmissions  
and Differentials

side-tracks Friction and  
rolls your car smoothly  
along the road of Steady  
Service.

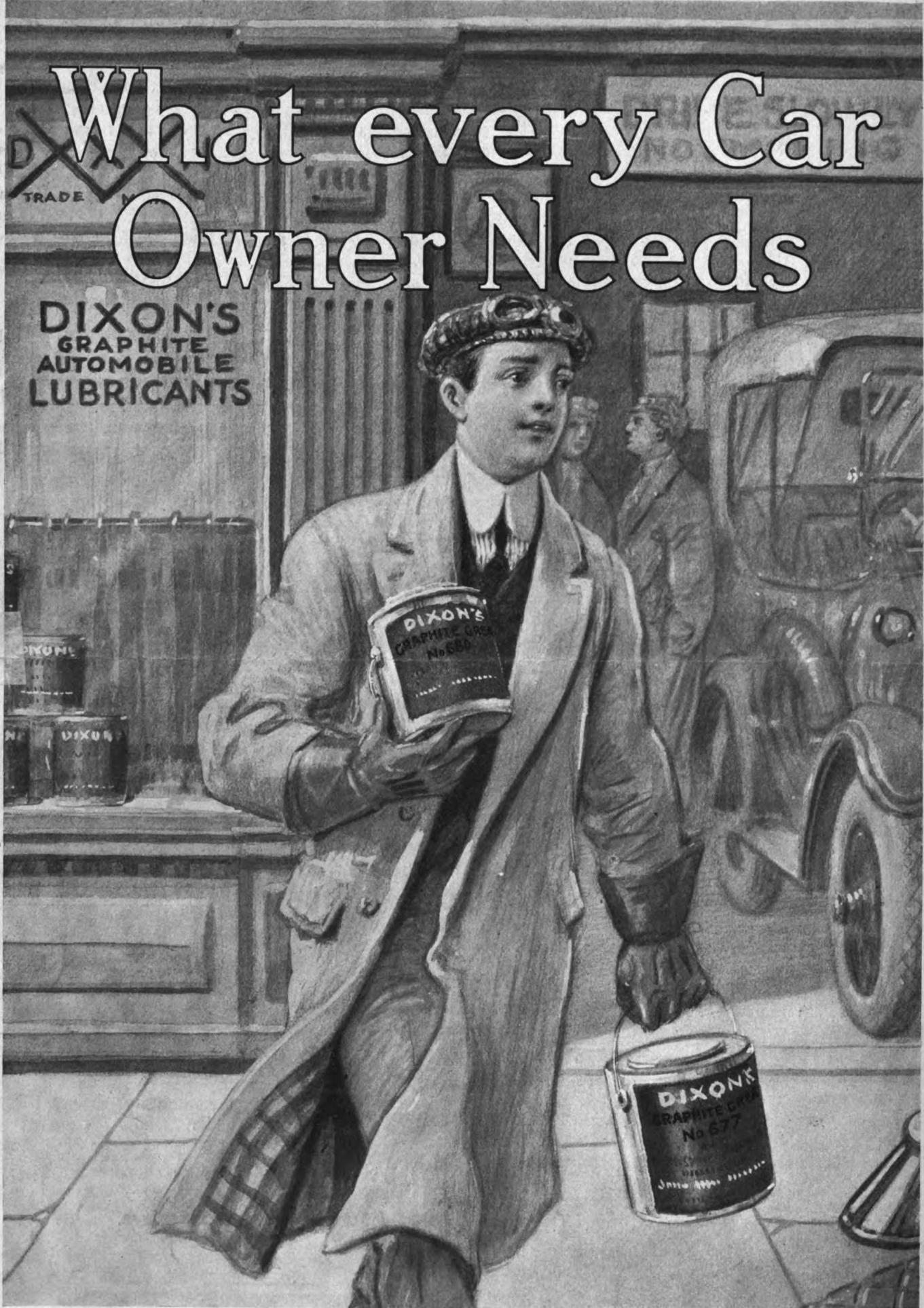
Write for the Dixon Lubricating Chart. It's valuable to you.

THE JOSEPH DIXON CRUCIBLE CO.  
JERSEY CITY, N. J.



Established in 1827





215  
UNIVERSITY OF ILLINOIS  
8 MARCH 1915

# Graphite

**Issued in the interest of Nixon's Graphite Productions, and for the purpose of establishing a better understanding in regard to the different forms of Graphite and their respective uses.**

**Vol. XVII**

**March, 1915**

**No. 3**



Electro-Pneumatic Interlocking Tower "A," Jersey City Terminal, C. R. R. of N. J.

ESTABLISHED 1827



INCORPORATED 1868



## JOSEPH DIXON CRUCIBLE CO. JERSEY CITY, N. J., U. S. A.

**Miners, Importers and Manufacturers of Graphite,  
Plumbago, Black Lead.**

### OFFICERS:

*President*—GEORGE T. SMITH  
*Vice President*—GEORGE E. LONG  
*Secretary*—HARRY DAILEY  
*Treasurer*—J. H. SCHERMERHORN  
*Ass't Sec'y & Ass't Treas.*—ALBERT NORRIS

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### OFFICES AND SALESROOMS

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 PHILADELPHIA SALESROOM, 1020 Arch Street  
 SAN FRANCISCO SALESROOM, 155 Second Street  
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 BOSTON OFFICE, 347 John Hancock Building  
 PITTSBURGH OFFICE, Wabash Terminal Building  
 ST. LOUIS OFFICE, 501 Victoria Building  
 BALTIMORE OFFICE, 616 Professional Building  
 BUFFALO OFFICE, 72 Erie County Savings Bank Building  
 ATLANTA OFFICE, Fourth National Bank Building

### EUROPEAN AGENTS

Graphite Products, Ltd., 218-220 Queen's Road, Battersea, London  
 SOUTH AMERICAN AGENT

For all Products Except Dixon's American Graphite Pencils  
 Alfredo J. Eichler, 666 Calle Cangallo, Buenos Aires, Argentine

### CUBAN AGENTS

For all Products Except Dixon's American Graphite Pencils  
 Croft & Prentiss, Room 424 Lonja del Comercio, Havana

### LATIN AMERICAN AGENTS

For Dixon's American Graphite Pencils, Etc.  
 National Paper and Type Company, 31-35 Burling Slip New York  
 With Branch Agencies in Mexico, Cuba, Peru, Argentine,  
 Uruguay, Venezuela, Porto Rico and Columbia

### NEW DIRECTOR

At the regular meeting of the directors of the Joseph Dixon Crucible Company, held on Monday, February 15, Mr. Robt. E. Jennings, President of the Carpenter Steel Company, was unanimously elected to fill vacancy on board made by the death of Mr. Wm. Murray.

## GRAPHITE

March, 1915.

### "OUR FOREIGN TRADE"

At a luncheon of the American Manufacturers Export Association, Mr. John Hays Hammond, in an address, said:

"The world's total exports amount to seventeen billion dollars annually, of which the United States supplies one-eighth. We occupy the second place—being only slightly behind Great Britain—and Germany the third place, among the great exporting nations.

"Eighty percent of the exports of Great Britain, and sixty-five percent of those of Germany, are manufactures, while only forty-seven percent of the exports of the United States are manufactures.

"There has been, in the case of the United States, a steady gain in the percentage of manufactured articles exported, until the enactment of the recent tariff law. The effect of this law has unfortunately resulted in an increased importation of manufactures.

"In her foreign trade, Great Britain follows the line of least resistance. She sends to British colonies and possessions (where she enjoys preferential tariff rates) nearly forty percent of her entire exports.

"America and Germany, on the other hand, have succeeded in developing the bulk of their trade with countries which have highly-organized competitive industries in the same lines of merchandise.

"The United States has come to its commanding position in the world's export trade—for such it virtually is—despite lack of systematic effort; handicapped by inadequate banking and transportation facilities, and without the valuable assistance rendered to our exporters which is rendered by other governments to their exporters.

"It is possible for the United States to become eventually the dominating factor in the world's commerce. That we have not already become so, is because of the fact that our incomparable home market has been unable to absorb the products of our national industries, and for this reason we have not been compelled, as have Great Britain and Germany, to assiduously develop an export trade.

"The value of the products absorbed by our home market is more than twice as much as the entire export trade of the world. Within the small area of Greater New York alone, for example, the value of manufactures annually exceeds the total exports of Great Britain.

"One of the economic lessons of the present war is the complete vindication of the fiscal policy which has resulted in the building up and expansion of our great national industries. We learn more clearly than ever the interdependence of our industries . . . . We learn the importance of all our industries to the extensive classes employed in our great transportation systems, in our agencies for distribution, etc., and we must conclude, therefore, that *the keynote of our economic and fiscal legislation must ever be to preserve unimpaired the integrity of our home industries and the purchasing power of our domestic markets.*"

MERCURIAL ointment makes a fairly good substitute for the common mixture of graphite and oil for preventing valve caps from sticking when screwed down tightly. It has this disadvantage, however, it is poisonous, whereas graphite is not.—*New York Times*.



### SIGNAL APPARATUS AT JERSEY CITY, N. J., OF CENTRAL RAILROAD OF NEW JERSEY

Painted With Dixon's Silica-Graphite Paint

The illustration appearing on the front cover shows one view of signal bridge "Tower A," Jersey City Terminal, Central Railroad of New Jersey, part of the new electro-pneumatic interlocking apparatus in process of construction, and painted with Dixon's Silica-Graphite Paint.

The illustration on this page shows another view of this modern signal plant, the functions of which are controlled from a 179 lever machine, having 145 working levers, with thirty-four spare levers for future extensions. Throughout the latest signal appliances are used. The installation is being made by the Union Switch and Signal Company of Swissvale, Pa., and all exposed parts are protected with Dixon's Silica-Graphite Paint.

This will mark the completion by the Central Railroad of New Jersey at Jersey City of a fine, modern passenger and freight terminal.

Dixon's Silica-Graphite Paint is known world-wide as standard—*one quality* only, and we alone mine Nature's mixture of the silica and graphite, which affords a superior pigment for railroad requirements.

DIXON'S graphite publications sent free upon request.

### THE YEARLY COST OF GOLF

We noticed recently the statement that golf costs Americans \$50,000,000 annually, an expenditure that represents five per cent interest upon a billion dollars. It seems quite impossible that so much money could be expended upon one game alone. Yet, figuring conservatively, this estimate comes very near being right. It does not refer, of course, to what has already been expended in the purchase of land, the construction of courses and clubhouses, which represents a probable investment to date of over \$100,000,000.

If we say that there are 2,000 golf clubs in the United States having an average playing membership of 200, which gives a total of 400,000 golfers, and allow an average of \$20 a day to each club in caddie fees, an expenditure of \$20 by each player a year upon clubs and balls, club dues averaging \$35, and labor \$3,000 per club, we arrive at a total of \$42,600,000. If there is added to this the purchase of seed, fertilizers and implements and other odds and ends, the total will come very near to \$50,000,000.—*Golf*.

"England permits; France encourages, and Germany frequently compels, combinations, which inure to the advantage of cheap production and the country's export trade."

### FORCING OUR FLAG FROM THE SEAS

Editorially the *New York Times* tells us that after operating sixty years, the Pacific Mail Steamship Company is closing its service between New York and San Francisco, in order to comply with the provisions of the Panama Canal Act, forbidding the operation of railroad-owned steamships through the canal. The *Times* says the advantage of the prohibition is clear. It fortifies the monopoly of the coastwise trade, whose rates will not be subjected to rude competition with the combined service of the railways and connecting steamships.

The political object of commerce through the canal is not to carry goods between producers and consumers at the lowest rates, but to provide unlimited profits for the coastwise monopoly, which is protected by law from competition.

The effects of the law are further illustrated by the frustration of the Pacific Mail's intention to enter the Oriental trade with four steamships between New York and Japan and China via San Francisco. To be sure, says the *Times*, these and the other boats of the Pacific Mail are not ordered off the seas. They may still ply on other routes, and are proposing to run between San Francisco and Mexican and South American ports by transshipments at the canal connection. They will do the best they can to keep their flags flying, no doubt, but it is plain that they owe little to encouragement by law.

This obstruction to the hoisting of the flag on the seas, according to the *Times*, merely repeats the experience of J. J. Hill. As a pioneer, he made plans for feeding a half billion Asiatics fronting our Pacific Coast with American grain in exchange for their products. His railways would feed his steamships, his steamships would feed his railways, and all buyers and sellers would benefit. He had a threefold trouble. He collided, in the first place, with cheap Asiatic labor, whereas the law compelled him to hire and pay Americans. Then his railroad merger was dissolved under the Sherman Act. Next the Interstate Commerce Commission compelled him to apportion his land and water rates, so that they might regulate the land portion. This laid him open to the tender mercies of his Canadian competitors, who knew just how cheaply they could bid away his trade.

The Canadians are still in the business, but Mr. Hill was glad when one of his magnificent boats was lost. His adventure was on a magnificent scale and the American flag floated proudly while the law permitted it.

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### RECOMMENDS DIXON'S BOILER GRAPHITE

CRISFIELD LIGHT AND POWER COMPANY

CRISFIELD, MD., January 26, 1915.

*Joseph Dixon Crucible Company,*

*Jersey City, N. J.*

GENTLEMEN:—We have used Dixon's Boiler Graphite No. 2 during the last year and have found it to be better than any boiler compound we have used before, as it will not let scale adhere to iron and does not loosen seams and flues, as compounds have done for us. It will keep all sediment afloat so it can easily be blown out.

We can recommend Dixon's Boiler Graphite to any steam user who has trouble with scale.

Yours very truly,

R. G. ANKLAM, Supt.

### GRAPHITE

### THE DIXON EDUCATIONAL EXHIBIT

For some time past it has been the custom of the Dixon Company to furnish teachers and schools with a graphic idea of how Dixon's Pencils are manufactured. Pencils in the various stages of manufacture are mounted upon a display card and afford an unusual and very interesting educational exhibit.

The Dixon Company receives many flattering acknowledgements from "grown ups" to whom the exhibits are sent, and occasionally hear from the "little ones," who seem always anxious to absorb pencil information.

The effect that this exhibit produces upon the juvenile mind may be judged from the following paragraphs from an imaginative young lady, twelve years of age.

"I was once a tall cedar tree growing in Florida. One day some men came by and glancing at me said, "we better mark that tree; it is just what we have been looking for." Then they made a cut in my side and went away.

"About a week later some other men came, saw the cut in my trunk, and said, "This must be the tree." They took an ax and began chopping my trunk. I felt myself falling and the next thing I knew I was in a very strange place. Later I found that it was the Joseph Dixon Crucible Company's factory. Then I was put in a machine and I came out in little slats about one-fourth of an inch thick. Some little grooves were put in the slats and then some lead.

"Finally I was cut apart by machinery, then varnished.

"I am now a beautiful little lead pencil in a school museum, and I am leading a very easy life, and hope to keep on doing so."

From a school teacher in West Virginia, who welcomes the help of many manufacturers: "I have just received your school exhibit of the manufacture of lead pencils and thank you for your assistance. The exhibit is far better than any we have, for while it is comprehensive it is also so plainly demonstrated that any pupil can understand it."

From the head master in a Boston school: "We beg to acknowledge with our sincerest gratitude the receipt of your magnificent exhibit. It is a splendid contribution to the cause of visual instruction, and will be of great educational value.

"In making this contribution, your company has shown a fine example of public spirit."

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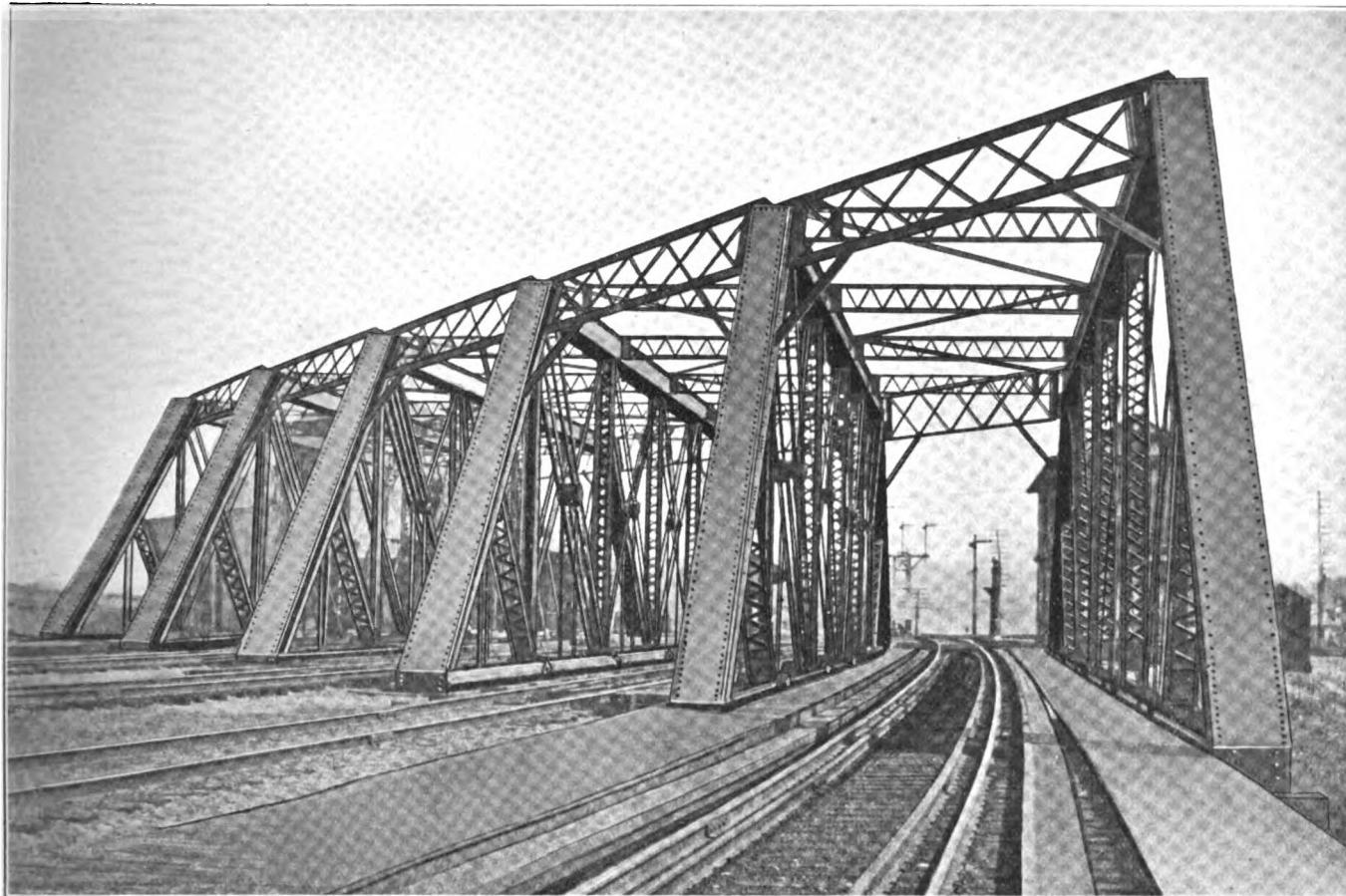
### A DIXON-OGRAM

In the new armies, a man is just a number—tag, same as every other man. War is a destroyer of identity,—the ruthless leveler. In industrial production, it's different. There a name counts, but it has to be won by tried and tested excellence. For fifty years Dixon's Silica-Graphite Paint has lived up to its first reputation, the best and *longest service* paint; one standard only, the highest. Specify it and personally inspect the job, to see if your painter really uses it in original packages.



Old Jerry says: "Dogs an' tobacker is a man's best friend—until they bites him."

**DIXON'S Graphite LUBRICANTS**  
Automobile  
Stops the bitin' grip o' friction on th' wearin'  
parts o' your car. They're friends ever-  
lastin'." Booklet No. 190-G.  
Made in Jersey City, N. J., by the  
**JOSEPH DIXON CRUCIBLE COMPANY**



#### **BRIDGE OF THE NEW YORK, NEW HAVEN AND HARTFORD RAILROAD, READVILLE, MASS.**

After all, a man is influenced considerably by the opinion of others and by the evidence of what he can see for himself—and why not? How much of what we learn is derived from personal experience? In order to go forward we must begin where others leave off—not where they started. Therefore we do not hesitate to print the testimony of competent and well-accredited witnesses on whose opinions we may safely rely.

Nor do we hesitate to show illustrations of notable structures that bear mute testimony to the beauty and unequalled durability of Dixon's Silica-Graphite Paint.

The illustration above is that of the New York, New Haven and Hartford Railroad bridge at Readville, Mass.

Eleven years ago the bridge was properly painted with Dixon's Silica-Graphite Paint, has not been repainted, and needs no repainting at the present time.

This is reliable and dependable testimony and worthy of the most careful consideration of all who are interested in maintenance economy.

Dixon's Silica-Graphite Paint is made in *one grade* only,—of the highest possible quality.

#### **A DIXON-OGRAM**

Sometimes a sale is a "sell," for instance, when goods are bought because they are "less per gallon."

That's not the case with Dixon's Silica-Graphite Paint. It lives up to its world-wide reputation of the *longest service* paint for metal. We sell for sales, keeping in view repeat orders from satisfied customers.

#### **THE LINCOLN HIGHWAY**

One of the grandest achievements of America will be the building of the Lincoln Highway from ocean to ocean. Much of it is already complete, so near completion is it that incidentals are being considered.

The General Federation of Women's Clubs has taken in charge the task of planting trees and flowers along the Lincoln highway from ocean to ocean. The planting of each state is to be individual and done by the local women's clubs.

In the East laurel and white oak trees have been chosen as symbolizing the strength and grandeur of Lincoln's character. In the three I's, Indiana, Illinois and Iowa, the prairie rose will be planted, indicative of the heart of Lincoln and his clemency. At the Golden Gate will be a long line of California poppies fringed with blue lupine.

The eucalyptus, the magnolia, the pepper, the olive, the walnut and the California oak will line the road west of the Sierras. The sega lily and the cottonwood in Utah. Cedar and juniper in Nevada, while butternuts, maples, spruce, pine and fir trees will be planted from the Rockies to the Alleghanies and beyond and the entire 3,500 miles will be an alameda.

—*Journal of Education.*

"In the enforcement of the Sherman law, our government should remove, as far as possible, obstacles to the cheapest possible production of commodities for our export trade, so as to place our country at least at no disadvantage compared with our competitors."

## A NEW DIXON BOOKLET



A sixteen page booklet, descriptive of Dixon's Graphite Automobile Lubricants, introduces a new wrinkle for imprinting dealer's name and address. The cover, in three colors, pictures the entrance to a garage or supply house, above which a sufficient expanse of brick wall allows for both a prominent and natural display of the name. Inside, the first four pages are devoted to a brief but pointed address to those interested in graphite lubrication. Following this is an individual description

of the members of the Dixon Lubricant family. A distinct feature of this description and one that lifts it from the ordinary, is the use of a series of well drawn pen-and-ink sketches that serve the triple purpose of showing the *Which*, *Where* and *How* of Dixon's Graphite Automobile Lubricants. The first few pages contain, in detail, recommendations for the use of each lubricant. Altogether this booklet is well worth writing for and a request is all that's required by the Joseph Dixon Crucible Company, Jersey City, N. J.

## THE PRIVATE SECRETARY

The private secretary who is successful as such, usually finds it very easy to rise to still higher and better things.

We read in the *LaSalle Extension Magazine* that the one all-important thing to consider is the acquirement of specific training along lines that will increase your ability and efficiency to the point of enabling you to become an expert.

The private secretary, therefore, should make it his business to acquire a broad and general knowledge. He should strive to become thoroughly informed on topics of the day. He should read dignified National magazines and literature. He should know *something about everything* of current interest.

General knowledge on *all* subjects may at times seem superfluous, but the fact that the private secretary has this information and knows how to express it intelligently will be a marked boost towards a bigger paying and more responsible position.

The private secretary should also have thorough training in business English. He should have the art of effective expression. He should be able to write or speak clearly, accurately, concisely, effectively; the ability to command attention, respect, admiration; the ability to persuade others to do what you want them to. In other words, the power of accomplishment.

A letter can be made interesting and effective only by the use of effective words so put together that the desired impression is made upon the reader.

To the ambitious young man or woman just launching out in the big field of business, a thorough training in business English will prove of inestimable value.

The above applies not only to the private secretary but to every young man or woman in business life acting as stenographer and typewriter. No employer ever objects to having his letters improved if the improvement is such as to cause the employer to believe that that is just the way he dictated the correspondence.

DIXON's graphite publications sent free upon request.

## OLD CUSTOMERS

A repeat order is the highest compliment in business. It is the hardest thing to get if you don't deserve it. It is the surest thing to get if you merit it.

Dixon's Silica-Graphite Paint has been made for fifty years in *one quality only, the best*. Looking over our files of old customers we happened to find a printed list, dated 1879 (36 years ago), which gives the names of customers who are still our good friends and users of this longest service paint, and we take pride in quoting just a few from this one old list.

The only nobility we have, or ought to have, in America, are great names. Here certainly are names noted in the business world, both for wisdom, worth and wide extent of their business. In speaking of America's greatness, they could consistently say: "Of all this, I was a part."

Alexander Smith & Son Carpet Company, Yonkers, N. Y.

Cornell University, Ithaca, N. Y.

Catskill Mountain Ry. Company, Catskill, N. Y.

Dunbar Furnace Company, Dunbar, Pa.

Grosvenor-Dale Company, North Grosvenor-Dale, Conn.

Hewes & Phillips Iron Works, Newark, N. J.

Harrison Safety Boiler Works, Germantown Junction, Philadelphia, Pa.

Nashville, Chattanooga & St. Louis Ry. Company, Nashville, Tenn.

Pennsylvania Steel Company, Steelton, Pa.

Yale & Towne Manufacturing Company, Stamford, Conn.

"ONE OF THE practices that has been very much criticized is the sale of our products abroad at lower prices than at home. But this practice is justified because of the fact that we are dealing chiefly with our surplus products, especially in time of depression. The alternative policy would be to close down the mills. By so doing the effective organization which has been built up would be impaired and likewise many wage-earners would be thrown out of employment.

"So great is the interdependence of the commercial nations of the world that we find in times of depression in this country similar conditions prevailing in Europe, and, consequently, congested home markets for their products.

"To compete successfully, therefore, with the minimum prices of our European competitors in foreign markets, it is often necessary for us to make lower quotations than those at which the same commodities are sold at home. A further vindication of such a policy is that by adopting this method of securing foreign trade we are enabled to prevent the expansion of the industries of our great commercial rivals and thus to retard them in attaining the low cost of production that we ourselves enjoy."

"Transportation companies should be allowed to give special rates to the seaboard for products destined for shipment abroad. In our recent tariff revision we reduced the import duties on the merchandise of certain countries without obtaining the reciprocal advantages to which we were entitled, and which would have readily been granted had a little business ability been exerted."



### CATHEDRAL, VALPARAISO, CHILE

The above illustration shows the Cathedral in Valparaiso, Chile, S. A., in course of construction.

Valparaiso, as our readers know, is the most important seaport of Chile, and all structures of metal must be protected from the ravages of the humid sea air and a hot climate.

The engineer in charge of construction of this cathedral is Señor Don Juan Tonkin, and the steel work is painted with Dixon's Silica-Graphite Paint.

Notwithstanding the fact that a portion of the steel has been exposed to the elements for two and a half years, Dixon's Silica-Graphite Paint is still in excellent condition on this uncompleted structure. The work on this notable cathedral was held up owing to a lack of funds.

### DENSITY OF WATER

Many people believe that water deep down in the ocean is so dense that human bodies, and even ships that sink, or for that matter any article thrown into the deep sea, sinks below the surface to a depth beyond which they cannot go and, therefore, are semi-floating about at unknown depths.

This is entirely wrong, as we have learned now that the density of water is governed by its temperature and not by pressure, as water is incompressible.

Pure water is a tasteless, odorless, transparent liquid which is practically incompressible. Its lowest density is at the temperature of 39.2° F.

At 60° F. one cubic foot of fresh water weighs 62.37 pounds, and one cubic foot of average sea water weights sixty-four pounds.

Suppose we constructed a tank strong enough to withstand an external pressure of 500 pounds per square inch, and made it heavy enough to sink in sea water. Neglecting tides, temperatures, etc., the tank would collapse at a depth of 1,117 feet in sea water and at 1154.5 feet in fresh water, because at these depths water has a pressure of 500 pounds per square inch. Nevertheless, after the tank had collapsed it would continue to sink to the bottom of the sea, regardless of its depth, as there is nothing to support it, because the specific gravity remains the same.

This we learn from an interesting article in *The Popular Engineer*.

### "MADE IN U. S. A."

We note in the bulletin of the United States Trade Mark Association that they have lately been informed that goods shipped to Australia, marked "Made in U. S. A.", were not admitted by the customs officials until the markings had been made more explicit, reading "Made in U. S. of America," because of the alleged ambiguity of the former marking. The legal basis for this insistence is that the initials "U. S. A." stand for the Union of South Africa, as well as for the United States of America, and are commonly used in parts of the British Empire to designate that recently created political entity.

First we were advised to take the slogan "Made in America" only to learn that that was just as easily applied to Canada, South America or to Mexico. Then, as we understand it, the "Made in America" Association was absorbed by the "Made in U. S. A." Association, which now finds itself up against the Union of South Africa. The Dixon slogan has been for sometime "Made in Jersey City, U. S. A." Jersey City has most excellent advantages for manufacturers and these advantages have lately been largely augmented by the reclamation of the Jersey meadows. So what is the matter with manufacturers coming to Jersey City and making use of our slogan, "Made in Jersey City, U. S. A."

### GRAPHITE IN HIS SOLE

A correspondent writes us that having had some disagreeable and annoying squeaks in the soles of his shoes, he wondered if flake graphite would not cure the trouble quite as well as it cured other squeaking troubles that he had experienced.

He had his shoemaker loosen the outer sole from the inner sole somewhat and introduced a small quantity of Dixon's Flake Graphite. When this was well worked in between the soles by jarring the shoe on a hammer, the shoemaker closed up the opening and the squeaking was permanently cured.

The correspondent adds that hereafter if he has any similar trouble he thinks he will be able to work the graphite in without the aid of the shoemaker.

### WHY NOT SUBSCRIBE TO GRAPHITE?

"What I object to is whin I pay tin or fifteen cents f'r a magazine expectin' to spind me evenin' improvin' me mind with th' latest thoughts in advertisin', to find more thin a quarter o' th' whole book devoted to lithrachoor."

—MR. DOOLEY in *Hearst's*.

"One of the essentials of efficiency in production is industrial peace. . . . . The relations between employer and employee are better to-day than for many years past. The employer is recognizing the justice and the advantage, when properly conducted, of the principle of collective bargaining, and both employer and employee recognize more than ever their interdependence and their reciprocal obligation as well."

## GRAPHITE IN BOILERS

Much has been said in *Power* relative to the use of graphite in boilers. I first used graphite in a plant having four 300 H. P. water tube boilers. No compounds had been used in this plant and the tubes were in fair condition. It required, however, from twelve to fifteen minutes to get through a tube with a turbine cleaner, maintaining 180 pound water pressure at the turbine, and occasionally we encountered tubes which required twenty to thirty minutes, but fifteen was a fair average. Before using graphite we turbined the boilers every ninety days, and this practice was followed for about nine months after it had been in use.

Notwithstanding that the output of the plant was increased more than thirty percent during the first nine months' use of graphite, we were enabled to increase the continuous runs of the boilers. Records show that two boilers were operated for 139 and 143 days, respectively, without turbining any of the tubes. Then they were opened and turbined throughout without difficulty. Furthermore, we were able to get through most of the tubes in less than eight minutes for each. Graphite did not show favorable signs until it had been in use more than five months and did not get in any good work until we had used it for about seven months; at this time one and one-half barrels had been used.

At the end of *seven months* we began loosening large pieces of scale in the drums for over two days, and succeeded in getting off large quantities of scale which ranged from one-eighth to five-sixteenths inch thick.

In my next plant I found dirty boilers and lost no time in ordering a turbine cleaner and a barrel of graphite. It required more than five months to get the cleaner, and this gave the graphite a chance to act before its arrival. I find that graphite will soften incrustation and loosen the heavy scale in the drums or on the sheets; *it is, however, essential that mechanical methods be employed to remove the scale.*

If maximum results are to be realized from the use of graphite, the boilers must be cooled down thoroughly before they are opened, and the *drums* must be washed immediately with a large hose and high water pressure. The scale will be soft mud when wet, but it will get hard when it dries.

It is much easier to wash the surfaces and then scrape them than to allow the accumulation to solidify and then pound it loose with the peen of a hammer. Do not take the tube caps or the man-heads off and allow a boiler to stand over night before washing and turbining. Take the tube caps off and put the turbine through the tubes as fast as possible. Then if any scale of consequence still remains, replace the cutters on the turbine cleaner with new ones and go through the tubes carefully the next day.—WALDO WEAVER in *Power*.

"THE DIXON booklet, "Useful Spanish Words and Phrases," is excellent and shall be very helpful indeed. We very highly appreciate your courtesy. Your wish that our Spanish may become as smooth as the lead in a Dixon Pencil is indeed a strong one, for there is no doubt at all of the good quality of the Dixon Pencils. You may be surprised to know that I carry a Dixon Beginner's No. 308 constantly, for it is ever ready and seldom has a broken point."

—From a School Superintendent.

## GRAPHITE

## ELDORADO

The first four of the following verses were written by the celebrated American novelist, Edgar Allan Poe. The last verses are what some Dixonites think Poe would have written had he become acquainted with the smooth writing qualities of Dixon's Eldorado Pencils.

"Gaily bedight, a gallant knight  
In sunshine and in shadow,  
Had journeyed long, singing a song,  
In search of Eldorado.

But he grew old, this knight so bold,  
And o'er his heart a shadow  
Fell as he found no spot of ground  
That looked like Eldorado.

And as his strength failed him at length,  
He met a prilgrim shadow,  
"Shadow," said he, "where can it be,  
This land of Eldorado?"

"Over the mountain of the moon,  
Down the valley of shadow,  
Ride, boldly ride," the shade replied,  
"If you seek for Eldorado."

The clouds passed on, this knight so wan,  
Within this very shadow  
Upon the ground a pencil found;  
It's name was Eldorado.

The modern knight knows what is right  
To him there is no shadow,  
For everywhere the sunshine fair  
Shows Dixon's Eldorado.

And thus of course this shows the force  
Of using "light and shadow;"  
To bring this out, without a doubt,  
Use Dixon's Eldorado !!

A MAN WHO saw one of "Those Shirts that Sister Susie Sews" for the soldiers in the war, said it reminded him of a letter sent in reply to a shirt received by a soldier during the civil war:

"Like a man without a wife,  
Like a ship without a sail,  
The saddest thing in life  
Is a shirt without a ——."

"The people of the country, of all classes, irrespective of political affiliations, are beginning to recognize the fact that politicians have, in a large measure, by their indiscriminate attacks on national industries, created a lack of confidence, which has contributed to periods of depression. For that reason there is to-day a strong revulsion of feeling throughout the country against the attitude of such legislators."

## NEW JERSEY'S LOSS, NEW YORK'S GAIN

The New York papers are jubilant over the reduction in the number of corporations in New Jersey assessed for taxation, and the increase of corporations subject to tax in New York State.

So far as the New York papers know there has been but one suit brought under the Seven Sisters Law of New Jersey, and in that one case the result was to find that the Standard Oil Trust was the victim of unfair methods of competition.

The loss to the State of New Jersey in taxes was, according to the New York paper, \$83,837. Our Manhattan friends say: "No doubt the stern quality of the Jersey sort of virtue finds recompense for the loss of the money in the freezing out of the hated corporations . . . . Of course, New Jersey can have no regrets for the facts which New York regards with such complacency. Hearts content cannot repent. Also virtue is its own reward," and other copybook maxims.

### THE MAN WHO DIDN'T SUCCEED

They sing of the men who build the mills  
And girdle the earth with steel;  
Who fill the hour and wield the power  
That molds the public weal.  
Honor to them that in honor do  
The work that the world must need,  
And yet in chief I hold a brief  
For the man who didn't succeed.

"Tis not to excuse the indolent;  
No plea for the down and out;  
Nor specious rot condemning what  
The leaders are about.  
Merely to ask in a casual way  
Of those who chance to read,  
For fairer view, and kinder, too,  
Of the man who didn't succeed.

His house is small, his table light;  
His family must endure  
The snubs and sneers of the buccaneers  
Whose debts fall on the poor.  
Yet his is a home and no hotel,  
His wife is a wife, indeed,  
There's nothing above his children's love  
To the man who didn't succeed.

Admitting it's true that he did not make  
The most of his talents ten,  
He won no pelf nor raised himself  
At the cost of his fellow men.  
His hands are clean, his heart is white,  
His honor has been his creed—  
Now who are we to say that he  
Is the man who didn't succeed?

—PETER REED in the *New York Sun.*

### A DIXON-GRAM

"Profit sharing with our paint patrons, by giving highest protective value in our Dixon's Silica-Graphite Paint," is our motto, and we've lived up to it for fifty years. We make *one grade only—the best.*

### NOT AS GOOD AS DIXON'S

The following is an extract from a letter received from the principal of a prominent school in one of the largest cities in the country, and comes entirely unsolicited:

"This year we have received the enclosed pencil for drawing. It is not as good as the Dixon which we have always used. I presume it may be cheaper. Will you please send me the comparative prices of this pencil and the Dixon?

"I am sure that the teachers in this district prefer Dixon's to any other pencil on the list. Your Modern Writing No. 2, 1220, is the best pencil for general school use that we have ever used."

### A DIXON-GRAM

Does the label lie? Do the goods live up to the label? Pass on till you find that the label and the goods keep equal pace. Then seize your opportunity to get *longest service and highest average economy.* Those are the mottos that Dixon's Silica-Graphite Paint has lived up to for fifty years. *One quality only; the best,* is another of our proved claims. Like the American traveler's check, Dixon's Silica-Graphite Paint is a "globe-trotter." You find it all over the world, "respected everywhere for full worth." Used on railroad structures all over the world.

THERE IS a mighty bright young advertising manager over in New York City who sends us now and then something very bright in the way of an advertising card. We rather think that he has lately had some love affair and come out second best, as we now have a card from him on which he makes the remark that Solomon was the first publisher of information—that Solomon did not need any newspapers or magazines, as he had a hundred wives and through them his information and gossip was carried to thousands more. Out of regard to that young man we omit his name.

**I**F you expect to make a long tour this summer, you will save time, expense and labor if you use

## DIXON'S Graphite Grease 677

For Transmissions  
and Differentials

It rids you of the friction jinx — makes burned-out bearings, worn gears, broken springs unknown in your car.

Write for the Dixon Lubrifying Chart. It will help you.

THE JOSEPH DIXON CRUCIBLE CO.  
JERSEY CITY, N. J.



Established in 1827



In December, 1911, and January, 1912, issues of GRAPHITE we illustrated the Power Plant and the Coal Handling Plant of the Pennsylvania Railroad, Long Island City, New York. These structures had been repainted by the Vassilaros Contracting Company with Dixon's Silica-Graphite Paint in the summer of 1911.

Upon a recent examination the structures were found to still be in excellent condition and not in need of repainting.

The conditions of wear and weather are severe and the Dixon Company point to these, among many others, as excellent recommendations of the economical, long service record of Dixon's Silica-Graphite Paint on railroad structures of all kinds.

#### WOMEN'S CAPES

Cape of Good Hope—Sweet Sixteen.

Cape Flattery—Twenty.

Cape Lookout—Twenty-five.

Cape Farewell—Forty.

#### EXCEPTIONS

Sound travels at the rate of 400 yards per second.

Exceptions to this rule:

Scandal: 1,000 yards.

Flattery: 500 yards.

Truth: 2½ yards.

Alarm Clock: ? ? ? ?

"I HAVE had the pleasure of reading several copies of GRAPHITE, obtaining them through a roundabout source. Now, sir, I would like to avail myself of your offer and ask you to send copies of GRAPHITE to the address given below."

JOHN H. SUMMERSKILL, B. S. C. Dept. of McGill University, Montreal, Canada.

#### GOVERNMENT OWNERSHIP

At the annual meeting of the Postal Progress League, held lately in New York City, the report of the subexecutive committee by Executive Vice President Theodore Glover Fillette of New York, was accepted.

It is strongly antagonistic to all propositions tending to government ownership of the telegraph and telephone systems of the country. It called government monopoly of telephone and telegraph in foreign countries a flat failure. Admitting that rates were sometimes lower, it scored the general inefficiency of the systems.

According to a Japanese newspaper, there are 35,000 people in that country unable to get telephone service under government ownership. Other statistics were quoted to show that all governmental lines of the world are run at an enormous deficit.

"Inefficiency in the management of industrial enterprises by the state is shown in Western Canada, to start with, and the broad trail of inefficiency leads thence to the British Isles, and then on through every country on the continent, crossing over Asiatic Russia to Japan, Australia, and finally to South America."

Much more in the report tended to show the inefficiency of government management.

#### THREE WAYS OF "HANGING"

"If you don't marry me, I'll hang myself from your stoop."

"Please don't Fred. You know that father doesn't want you hanging around here."

Yet Dixon's Silica-Graphite Paint hangs everlastingly, and is moreover making a good reputation thereby.

DIXON's graphite publications sent free upon request.

### WHY WORRY

Why worry about business or anything else when for a few dollars and some exertion you can have all of the world and its treasures and pleasures.

If you are in business and lack orders, how easy, very easy, it is to get them. Dozens of men stand ready for insignificant small sums of money to solve your selling puzzles and problems. If your circular matter, letters and catalogues drag, consultation will cost you nothing but will produce profitable improvements.

If you believe that some advertising will do you good, there are men with scores of years of success in hundreds of different lines who, for a reasonable monthly fee, will prepare advertisements that will surely bring you business, and if you are dissatisfied you can quit. We are not told whether we are to quit business or quit the doctor of advertising.

If we are not a good judge of character and hesitate to employ a man, there is open to us the "Science of Character Analysis" and we can learn with a few practical lessons by mail, all illustrated, how to judge others quickly and accurately. We learn to know what a man's appearance means, his face, his head, his hands, his eyes, his expression, his walk, his handwriting, everything about him. We are not obliged to apply the tape measure to his head or ask him questions or let him know in any way what we are doing. If we don't need these lessons for any practical purposes, we can have them as an accomplishment and we will never have a dull moment after we have begun this study.

If through the various ways and means offered us, business rolls in in a volume beyond our ordinary ability to handle it, there are men and appliances offered us which solve the most difficult situation in the simplest and most practical way.

If we have any difficulty in making collections there are dozens of good friends who have collection departments thoroughly organized and equipped and who will promptly make collections without giving offense—on the contrary, making friends instead of enemies.

We are interested in knowing that if we do not use our will, it is like carrying our arm in a sling—we soon find we are unable to use it, but if we will take a few lessons in will gymnastics and acquire the power of will which we can, for we are told that the great men are not born with any more gifts than others, why we will soon find that, like Billy Sunday, we can shake up ninety-nine out of every hundred people. Therefore, it is up to us to train our will and power of thought where everything that we ought to have can be easily within our grasp.

To look through the pages of some of the popular business magazines would indicate that the man who is not drawing from one hundred to one thousand dollars a week, or who has not a big business or who is not a notable public speaker or is not the biggest toad in the puddle generally, is just simply too lazy to get up and hustle and take advantage of the tempting offers made him for self-development. Maybe it's all so, and then again maybe its true that there is a certain fish born every minute.

### THE SERIOUSNESS OF BEING DEAD

Stiff with the cold and bound to a pillar in the basement of a shop, Walter A. Kirschner, a plumber, was found dead today in a serious condition.—*Sheboygan Journal*.

### POISONOUS PAINT

In the *Commerce Reports* of January 4, issued by the Department of Commerce in Washington, we find the following:

"The total number of cases of lead poisoning reported to the Home Office under the factory and workshop act during October, 1914, was twenty-four, of which two were fatal. In addition, nineteen cases of lead poisoning (three of which were fatal) were reported among house painters and plumbers. During the ten months ended October, 1914, the total number of cases of lead poisoning reported under the factory and workshop act was 385, as compared with 456 during the corresponding period of 1913. The number of deaths in 1914 was twenty-four, as compared with eighteen in 1913. In addition, there were 210 cases of lead poisoning (including thirty-two deaths) among house painters and plumbers in the first ten months of 1914, as compared with 254 cases (including thirty-two deaths) in the corresponding period of 1913. In the china, earthenware, etc., etc., trades, one case of lead poisoning was reported during October."

It would be very interesting to know how many persons in the United States may suffer from the effects of poisonous paints, and how many may die from the same effect.

Wherever the color is not a decided objection, all users of paints may know that Dixon's Silica-Graphite Paint contains no ingredients other than pure boiled linseed oil and silica-graphite, which is as healthful and sweet as charcoal itself. Graphite is one of the forms of carbon the same as charcoal, and is not affected by alkalies or acids, and is unequalled in endurance.

Graphite forms the "lead" of a lead pencil and florists use a soft lead pencil in marking zinc tags in the nursery. Such marks never fade; the endurance is such that in time the zinc wears away, leaving the lead pencil marks as raised surfaces.

### IT IS EVER SO

When a noted woman died the obituaries read "sixty-three years old." When the papers were filed in a suit against the estate they read "eighty-six years old." We are told that to know how to grow old is the masterwork of wisdom, and one of the most difficult chapters in the great art of living. This good dame seems to have accomplished it quite as well as she did many other things.

"Legislation dealing with the tariff, the currency, the trusts and other economic subjects vital to the welfare of the whole nation is, in a large measure, determined on strictly political lines—indeed is settled by politicians on the stump rather than by business men in boards of trade. Economics is too often subordinate to politics. The vehement attacks by our government on corporations, indiscriminately impeaching the integrity of our corporate practice, and of our business men, has not only prejudiced our position as exporters in foreign markets, but has increased the difficulty of obtaining foreign capital indispensable to our industrial activities."



Cold that causes the contraction of steel and other metal surfaces often destroys the protecting paint film. Paint that dries hard and brittle is the first to suffer. Through the fissures of a broken paint film rust and decay enter, eat and destroy.

## DIXON'S SILICA PAINT GRAPHITE

provides an elastic film which is neither broken by the expansion of extreme heat nor the contraction of extreme cold. For this and many other good reasons explained in Booklet No. 190-B, you should order or specify Dixon's—the longest service paint.

MADE IN JERSEY CITY, N. J., BY THE  
**JOSEPH DIXON CRUCIBLE COMPANY**  
JERSEY CITY, N. J., U. S. A.  
ESTABLISHED 1827

Nat. Hist.

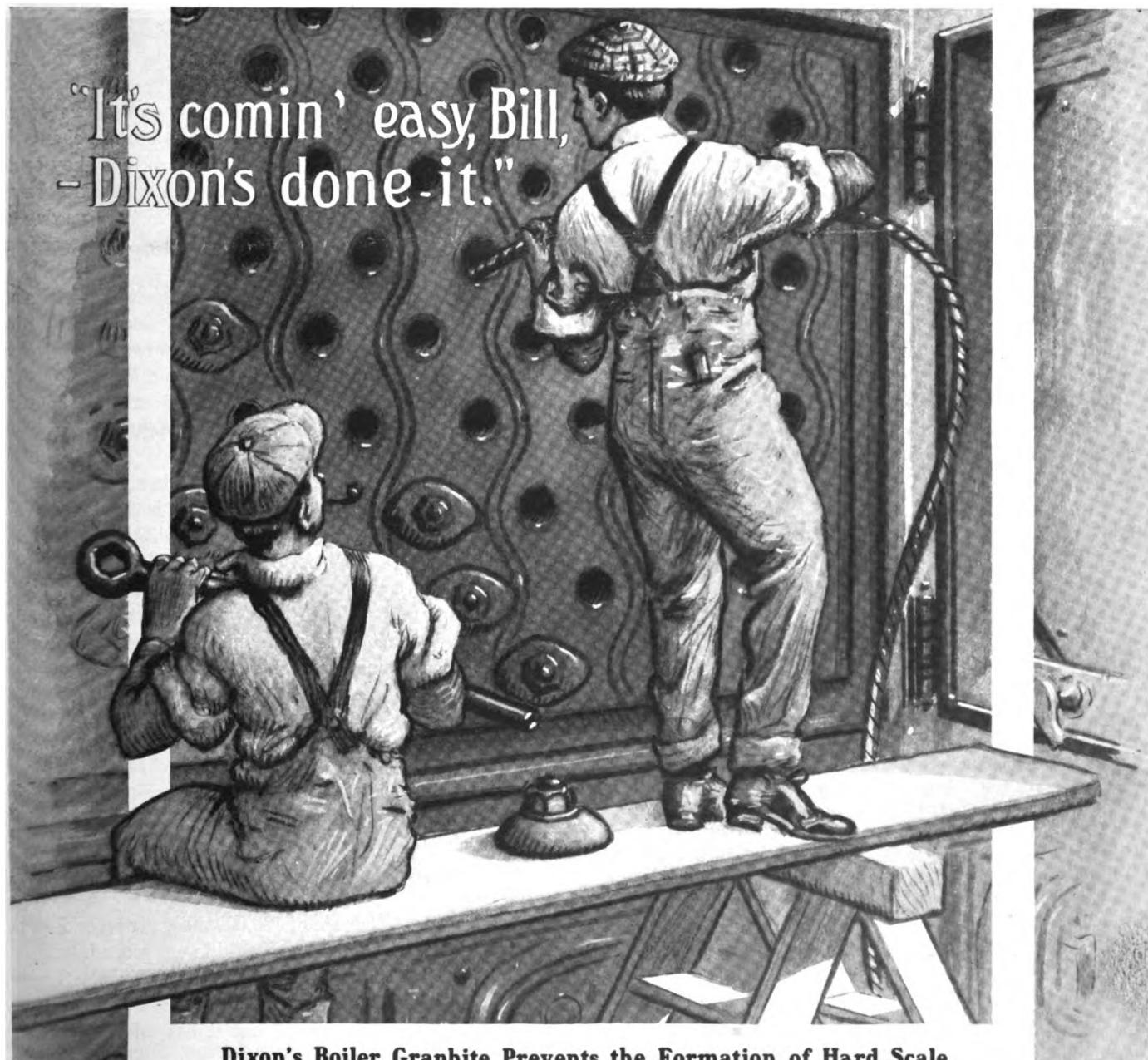
# Graphite

Issued in the interest of Dixon's Graphite Productions, and for the purpose of establishing a better understanding in regard to the different forms of Graphite and their respective uses.

Vol. XVII

April, 1915

No. 4



Dixon's Boiler Graphite Prevents the Formation of Hard Scale

ESTABLISHED 1827



INCORPORATED 1868



## JOSEPH DIXON CRUCIBLE CO.

JERSEY CITY, N. J., U. S. A.

**Miners, Importers and Manufacturers of Graphite,  
Plumbago, Black Lead.**

### OFFICERS:

*President*—GEORGE T. SMITH  
*Vice President*—GEORGE E. LONG  
*Secretary*—HARRY DAILEY  
*Treasurer*—J. H. SCHERMERHORN  
*Ass't Sec'y & Ass't Treas.*—ALBERT NORRIS

### DIRECTORS:

GEORGE T. SMITH	GEORGE E. LONG
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 BOSTON OFFICE, 347 John Hancock Building  
 PITTSBURGH OFFICE, Wabash Terminal Building  
 ST. LOUIS OFFICE, 501 Victoria Building  
 BALTIMORE OFFICE, 616 Professional Building  
 BUFFALO OFFICE, 72 Erie County Savings Bank Building  
 ATLANTA OFFICE, Fourth National Bank Building

### EUROPEAN AGENTS

Graphite Products, Ltd., 218-220 Queen's Road, Battersea, London  
 SOUTH AMERICAN AGENT

For all Products Except Dixon's American Graphite Pencils  
 Alfredo J. Eichler, 666 Calle Cangallo, Buenos Aires, Argentine  
 CUBAN AGENTS

For all Products Except Dixon's American Graphite Pencils  
 William Croft, Room 424 Lonja del Comercio, Havana

### LATIN AMERICAN AGENTS

For Dixon's American Graphite Pencils, Etc.

National Paper and Type Company, 31-35 Burling Slip New York  
 With Branch Agencies in Mexico, Cuba, Peru, Argentine,  
 Uruguay, Venezuela, Porto Rico and Columbia

### WAS IT DIXON'S No. 677?

Ralph T. Pearce, amateur chicken raiser of Brielle, N. J., discovered that one chicken laid two eggs a day after eating automobile grease. Now he is feeding it to all of them.

### TERMS OF SALE

We are indebted to Mr. E. S. Boteler, president of G. K. Sheridan & Company, and vice president of the New York Credit Men's Association, for the following very concise and interesting history of terms of sales, and believe that our readers will find it a valuable addition to the literature on this subject.

"Before the Civil War, the bulk of merchandising in textiles and manufactured articles was on long terms, *i. e.* sixty days to six months, and this business was done through the medium of bills drawn upon the purchaser and upon presentation were accepted and returned to the original drawer who thus had not only a negotiable paper, but an acknowledgment of the justness and legitimacy of the debt. This kind of paper was called "acceptances" and was in high standing.

"Just after the war, creditors knew almost nothing of the financial responsibilities of very many of their customers in sections of the country that had suffered from the war, and were compelled to tell such customers that conditions had so changed that they could only trade on very short terms, *i. e.* practically cash, and the customer was therefore offered special discounts that he could not afford to ignore, and these special discounts really forced him to raise money at home to settle for cash.

"Naturally, local rates of interest in many sections were very high, but when, in the course of a few years, merchants in these localities began to shape their affairs so that they could make statements worthy of attention, such merchants began to ask and to receive the cash terms plus thirty days dating, which terms were very helpful in relieving the purchaser from exorbitant local rates of interest.

"In the early eighties, the more prosperous merchants began to demand and to receive sixty days' dating in addition to cash terms, so that in textiles purchasers received terms of two percent, ten days, sixty days extra, and in a little while the banks were forced to offer money at such rates that it soon became general to settle such bills in ten days, the customer deducting three percent.

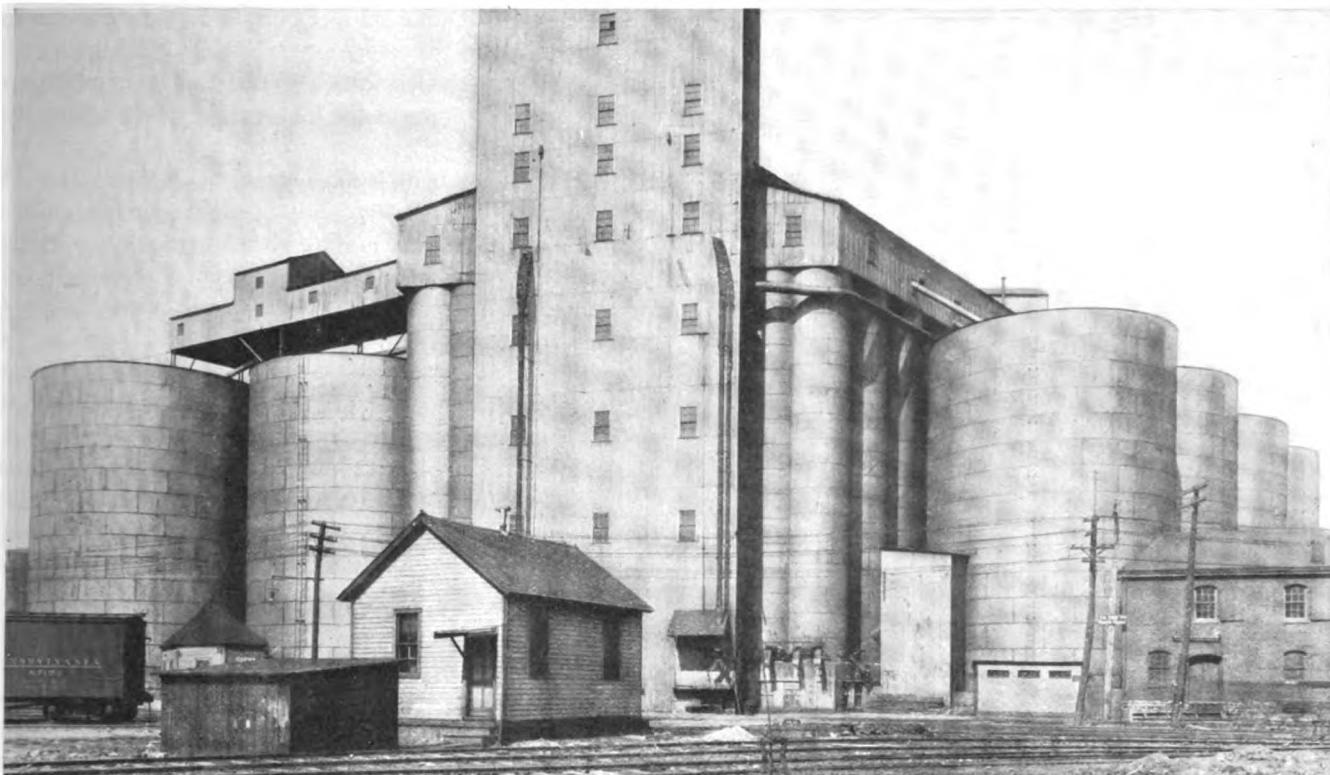
"It begins to look as though the Federal Reserve Act, operating throughout the country, would, in the course of a few years, bring back to a large extent, conditions very similar to those that obtained before the war, and we may indeed look forward to a large amount of trading on "acceptances" and to doing away with the great variety of cash and special term discounts that have, in recent years, been rightly the subject of vigorous and general criticism."

### A MATTER OF LIGHT

When light emitted by an illuminous object strikes an object, a portion of it is always reflected. It is this reflected light that makes an illuminated object visible. When the qualities of an article are so evident and so illuminating that one mind reflects an opinion on another mind, we call that mental reflection.

Light travels at the rate of 186,000 miles per second—equal to over seven times around the world in one second.

The knowledge, fame and reputation of Dixon's Graphite Products, like light, have covered the entire earth—at least wherever civilization is found, but it has taken a period of eighty-eight years to do it fairly well.



**GREAT EASTERN ELEVATOR, BUFFALO,  
NEW YORK**

Nine Years' Paint Service

The above illustration of the Great Eastern Elevator, owned by the American Linseed Oil Company, shows the kind of service which Dixon's Silica-Graphite is performing.

This elevator was last painted in 1906 with Dixon's Natural color. Upon a recent examination the structure was found to be in such good condition that repainting was not necessary.

This is a service of nine years under conditions that are severe because of the corrosive attack from damp grain dust, sulphur fumes, smoke and other rust-producing agents.

The proper way to ascertain the remarkable economy of Dixon's Silica-Graphite Paint, is to divide the years of service into the first cost, and the result is that it is preferred because it gives absolutely the most economical service per year.

The pigment used in the manufacture of Dixon's Silica-Graphite Paint is Nature's mixture of the silica and graphite, which is alone mined by the Dixon Company at Ticonderoga, New York. The film is a more tenacious and lasting one than where silica and graphite are added mechanically. Moreover, nothing but pure, boiled linseed oil is used as the vehicle.

Insist on this *longest service* paint for all parts of your elevator plant.

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**THE YOUNGER MAN FOR WORK**

If it should become as necessary in mercantile life, as it is in military life, to take advantage of every opportunity and every chance, and to win at whatever cost, then many an elderly man would be obliged to give place to a younger man.

The older man might indeed be of good value, possibly full value, because of his advice and counsel and experience, but for the real work the younger man would be needed, and the older man would be obliged to give way before him. General

Joffre found it necessary to introduce a younger element in superior command, and despite all comments and in face of an ill feeling, General Joffre was obliged to retire the older men who had become "fatigued" and seemed unfit by age to fulfill their duties.

General Joffre said, "The fact is the real test of man, fitted for warfare, is war itself rather than strategical colleges. The keenest intelligence, the most complete knowledge are of little value if to them are not added certain qualities of action." It is this quality of action, rather than intelligence and knowledge, that tells in commercial life quite as much as in warfare.

General Joffre said that he found that some of his older generals were not able to do justice to their merits. Their activities seemed to have slowed up, and observing these deficiencies, he was obliged setting about remedying them. Some of these generals were his very best comrades, but while he loved his friends, he loved France still more. Therefore he relieved them of their commands. He relieved them not as a punishment, but for his country's good, and so it is in commercial life; a man, even though he has been faithful and good, who has reached that age where the business suffers, should be relieved by a younger man, and the older man made comfortable by pension, or relegated to some less arduous task where activity, acuteness and alertness are not called for.

We must all, as General Joffre said of himself, expect to be removed when we are found deficient. Not, as he says, removed as a punishment or in disgrace, but placed in some position as a reward for past activities, and that the greatest good to the enterprise, whatever it may be, may result.

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THE following is written by the secretary of a School Board in Pennsylvania: "King Solomon said, 'All honor to the iron workers.' If he lived today, he would say: All honor to Joseph Dixon Crucible Company for their Big Three lead pencils."

## CHARLES KEHR

In the death of Charles Kehr on March 1, 1915, the Joseph Dixon Crucible Company lost the valued services of an employé. The deceased became a member of the Clerical Relief Association of Jersey City through the efforts of the Dixon Company, and his death developed the first claim to be made upon the Colonial Life Insurance Company through the Clerical Relief Association. The claim for an amount of insurance equal to a year's wages of the deceased was presented three days after death and was promptly accepted. Upon the following day, Mrs. Frances Stuckey, an aunt and beneficiary of the deceased, received this amount in full.

In sickness, worry over premium payments does not help to improve things, and for the members of the Clerical Relief Association it must be a satisfaction to know that provision for surviving relatives is assured.

It is significant to record the fact that due to the stress of sickness, the payment of a last premium due on a fraternal insurance policy lapsed but for a single day, incurring a total loss of the policy to the beneficiary of the deceased.

## GRAPHITE AUTOMOBILE LUBRICATION

Mr. Car Owner, may we have your close attention for a few minutes? If our remarks are rather pointed, it is for the purpose of saving time and to better hammer home a few important truths.

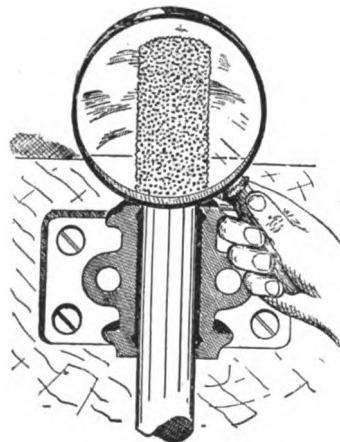
Most motorists realize that there is a vast difference in lubricating oils and are careful to purchase a brand specially prepared for the purpose, for they know it is wise and economical to use only high grade oil in engines.

But few are as particular about the grease used in other parts of their cars. Time and again, we have heard men rush into a store and say, "Give me a can of grease, quick," and accept any old thing the dealer sees fit to give them. No doubt they own a high-priced car, a fine piece of machinery that deserves decent attention, but they will slap in "any old kind of grease" and let it go at that. Is it common sense?

Apparently they have never stopped to consider why good lubricants are essential.

Metal surfaces may appear smooth to the eye and may feel smooth to the touch, but a microscope will disclose hundreds of minute irregularities which cause the surfaces to appear like nutmeg graters.

When bearings are in motion the minute points interlock and cause a retarding and wearing-out effect, known as friction. That is why it is impossible to run machinery without lubrication of some kind. Oil or plain grease interpose a film between the rubbing surfaces and thereby tend to "float" the bearing, but the film is extremely thin and delicate, is constantly breaking and does not entirely overcome friction. Eventually the bearings become worn, no longer fit snugly,



and during all that time extra gas has to be burned in the engines to overcome the unnecessary friction. The better the grease, the better the lubrication will be, but it will always be far from perfect so long as the microscopic points exist in the bearing surfaces.

The logical thing to do is to eliminate the points. The only substance that will accomplish this fundamental service is Dixon's Motor Graphite, a selected flake graphite of highest quality and extreme fineness. Its function is to smooth over the points with a wonderfully smooth, durable veneer of graphite that is practically frictionless. Thus two purposes are accomplished; all wear comes on the graphite coating, thereby always retaining the bearing in the original condition and fit, and at the same time the car runs with so little friction that a given amount of gasoline will produce more power or mileage.

Dixon Graphite Greases are compounded in such a way that they will always maintain the desired veneer of flake graphite on all rubbing surfaces. Bearings thus scientifically lubricated run cool and quietly, irrespective of speed or temperature. Dixon's Flake Graphite will not pack or ball up because this peculiar form of graphite flake will not adhere to itself.

But some dealers do not recommend even Dixon's Graphite Automobile Lubricants. Why? Because it is possible to buy lubricating greases for three cents a pound and sell them for twenty cents a pound. The profit is tempting. *We make the highest priced, highest graded line of automobile lubricants on the market, and dealers who are in business to stay, who sell real service, know and recommend Dixon's Graphite Automobile Lubricants.*

A special grade is designed for each part of the car; don't put cup grease in the gear box or gear grease in cups. Specify what you need and see that you get it.

The Dixon Company have established a wonderful name for lubricating graphite and other producers of graphites are trading on this Dixon reputation. Get Dixon's Graphite Lubricants and you protect yourself against the cheap greases that *can't* make good. "Dixon's will."

The above remarks are submitted for your consideration. There is not a flaw in our argument, not a flaw in Dixon goods. If our little straight-from-the-shoulder talk appeals to you, we trust that you will accept the suggestions and learn for yourself the difference between correct and slipshod lubrication. If you are not sure what grades are required, give us the name, year and model of your car, and our lubricant experts will be pleased to make proper recommendations.

## IF YOU KNOW, YOU KNOW

Our paint department tells GRAPHITE that honesty compels those who have used Dixon's Silica-Graphite Paint to say that they know what they know and do not know what they do not know. If we grasp the idea, it means that those who have used Dixon's Silica-Graphite Paint know that, if properly applied, there is no expense in the way of repainting required for a number of years—sometimes not for ten or twelve. If there is a better protective paint they do not know of it. They know what they know and do not know what they do not know.

DIXON'S graphite publications sent free upon request.

### THE CAUSE OF THE WAR

Great men of all classes, military, civil, literary and otherwise, have told us the reason why of the present great war. Not one of these men, however, hit the bull's eye.

The real reason of the war is given by Dr. Robert Tuttle Morris, ex-president of the American Association of Obstetricians and Gynecologists, who talked sometime ago before the Cornell Club, New York City, on "Warfare as Natural History."

Dr. Morris diagnosed the European conflict as a free-for-all show-down between "Mr. Darwin of England and Mr. Treitschke of Germany," and he predicted that Darwin would win out. It was not the Darwinian theory about the survival of the fittest that would win, he explained, but the other Darwinian theory about the mutual dependence of protoplasm.

Dr. Morris described himself as "an angel flying in where others fear to tread." He said the naturalists were the only ones who understood the question and were "laughing up their sleeves" at the troubles other folks were having trying to explain what ailed Mexico and other warring nations.

Man, Dr. Morris described as a group of protoplasmic coils that were in constant warfare, and warfare was "one of Nature's methods of deciding the struggle for survival." Then he went on to show how the whole war in Europe was a battle of protoplasms.

He said "it makes no difference how many allies they have or how much the world suffers and pays out. They're going to fight it out, and one side is going to dominate. What's going to happen to Germany? Crush her? No. You can't crush a splendid protoplasm of 70,000,000. Press it down on top and it bulges out at the sides. The Prussian is always there, and he will be there ten years from now. Nor can you crush Great Britain, a splendid type of protoplasm that has dominated so long."

He added that "nations were also like plants because they were bound sooner or later to reach the 'point of cultural limitation.' Greece, Rome, Egypt, Peru and other civilizations have been put on the shelf along with the Morgan horse and the Wilson strawberry, all of them being samples of protoplasms that had reached cultural limitations and couldn't be brought back to life.

"The strength of a nation depends on the hybrids that caused that variety. The Puritan produced the longest and strongest stock. Mexico is short on varietal hybrids—it has not any, in fact. Naturalists laugh up their sleeves when they see good people getting excited because the Mexicans can't govern themselves. Of course, they can't. There is no strong dominant type, and it takes some remarkable mutant like a Diaz who executes his rivals without asking questions to govern and keep order."

Dr. Morris then advanced the theory that the Jewish people would be the next to dominate.

"It is true that they ceased to be a nation politically long ago, but through the habit of the species *homo sapiens* they are gathering in the cities and are thriving under urban life. They are increasing more rapidly than any others, and under natural laws they will dominate."

Dr. Morris did not think there was going to be any long-established American nation. The dominant varietal hybrids here were fast running out of protoplasmic energy.

### "GRAPHITE" FOR REFERENCE

"In conjunction with my work at Columbia University," writes a student of that institution, "I am preparing an essay on 'Graphite, Its Composition and Industrial Uses' and, not knowing just the right channels through which to obtain the necessary data, I take this liberty of writing for your advice in the matter. It is my desire to secure as much information as possible concerning the various processes in the manufacture of commodities from graphite, in part or in whole. I am fully cognizant of the largeness of the subject, but knowing you to be leaders in your respective business, I feel certain of your ability to put me in touch with the required sources of information. I trust this will not discommode you and thank you for any assistance you may be able to render me."

We were very glad to be in a position to refer the writer of this letter to the School of Engineering at Columbia University. The library there contains a complete file of GRAPHITE, full of just such information that would facilitate the composition of an essay on the subject of graphite. Bound volumes of GRAPHITE are also on file in many of the free public libraries of the larger cities and also in a number of scientific schools, clubs, societies, etc.

### HOW TO RUN BASES

"I want a book for a high school boy."

"How about Fielding?"

"I dunno. Got anything on base-running?"

—Louisville Courier-Journal.

First, it's eighty-eight years of our time  
and experience against your investment in

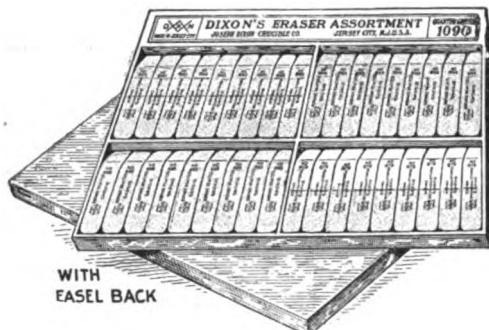
### DIXON CRUCIBLES

After that it's a long story of satisfaction  
—an inside story of the furnace. New  
booklet No. 190-A upon request.

Made in JERSEY CITY, N. J., by the  
**Joseph Dixon Crucible Co.**

ESTABLISHED 1827





#### DIXON'S ERASER ASSORTMENT No. 1090

A new quarter-gross display of popular Dixon erasers. A cloud paper finish to the flat container blends attractively with the gray, green, red and white colors of the erasers. The container is fitted with an easel back, which at a slight angle permits a display of the entire contents. Within the container is nine each of Dixon's No. 680 red and gray Pencil and Typewriters' Erasers, Dixon's No. 869 green Eclipse Erasers for pencil marks, Dixon's No. 879 Pencil and Ink Erasers, and Dixon's No. 868 red "Eclipse" for pencil marks. All of these erasers are double beveled and comprise the best assortment of its kind now being offered to the trade at the price. Prices, circulars and further information will be gladly furnished by the Joseph Dixon Crucible Company, Jersey City, N. J.

#### AMERICAN BUSINESS LOCKED OUT

Mr. Charles M. Muchnic, of the Baldwin Locomotive Works, who spoke sometime ago at a Saturday luncheon of the Republican Club of New York City, said that American business has been locked out of South American countries to a large extent by the investment there of European capital, on the understanding that the country furnishing the capital should furnish also the materials.

"Another instance that comes to my mind," he said, "is the Manila Railroad Company, a railroad operated on American territory with Government representatives on the board of directors, and securities for that road largely guaranteed by our Government. Yet the entire management of that company, from the president down to the lowest officials, are Englishmen, who delight in criticising everything that is of American origin."

"After many years of effort the Baldwin Locomotive Company was only once allowed to participate in competition for the purchase of locomotives, and while the contract was in that instance awarded to us on the basis of price, and only after pleading our case with the Bureau of Insular Affairs, we were obliged to build the locomotives to English design and English specifications. When the engines were delivered they were subjected to the severest criticism by the English management, inspired solely by prejudice against American products. Other orders for locomotives have since been placed in England without American manufacturers being invited to tender bids. The same applies to many other purchases made by this railroad, which is the most important in the Philippine Islands."

A CERTAIN amount of opposition is a great help to a man; kites rise against and not with the wind.—*Crown of Baltimore.*



#### MR. READY GETS BON VOYAGE FROM CREW

This, as all constant readers of GRAPHITE know, is Mr. John M. Ready, erstwhile continent-trotter and well known to the stationery trade at large. Mr. Ready steers the destiny of the Dixon Company in the Metropolitan district at 68 Reade Street, New York.

The occasion of Mr. Ready's reappearance in GRAPHITE is to celebrate the fact that he has at last decided to break away from Gotham long enough to take a trip to the West Indies. He left New York, March 6th, on the Ward Line steamer "Saratoga" bound for Havana. Havana this season has some special attractions beside the regular carnival season. After Mr. Ready has seen Havana to his heart's content, he will extend his trip to Santiago, Cuba, thence to Porto Rico. He may possibly extend his trip further through the West Indies. Mr. Ready was accompanied by Mr. Geo. E. Long, vice-president of the Dixon Company, Mr. J. A. Tracy, superintendent of the Dixon pencil factory, and his friend, Mr. Charles W. Burry, affectionately known to Mr. Ready as "Toodles."

Upon the day previous to Mr. Ready's sailing he was persuaded to attend a farewell lunch given in his honor at the offices of the Dixon Company in Jersey City. Owing to his extreme modesty for the limelight, the persuasion was necessarily indirect and "General" Ready arrived under the impression that the occasion was especially concocted for Messrs. Long and Tracy. A surprise, in the shape of a cake inscribed "To Commodore Ready from the Crew," greeted his startled gaze as he sat down to the festive board. Thereupon Mr. Ready acquired the new title of "Commodore," a title which he is expected to retain for at least during his present ocean journey.

One or even a few more titles added to the list of those he already possesses does not disturb Mr. Ready. He acquires a new one wherever he goes and it is expected that he will bring back a few Spanish titles from the West Indies.

DIXON'S graphite publications sent free upon request.

## BOILER MANAGEMENT AND INSPECTION

This is the fifth article of a series concerning boiler room practice, written by Joseph G. Branch, editor and publisher of *Electricity and Engineering*. The use of boiler graphite is the subject of this particular article, which appeared in the February issue of *Electricity and Engineering*.

In the preceding chapter the question of boiler scale was discussed, together with the prevailing methods for its removal or prevention. In this connection consideration was given chiefly to those so-called boiler "compounds," the action of which is chemical in nature. To remove the scale-forming materials in the feed water by chemical treatment is perhaps the most obvious method at hand, and it is therefore not surprising that it has had an extensive application.

Now, even a brief consideration of the subject should make it evident that a steam boiler is a very unsuitable place in which to carry on chemical reactions. If we were at all times able to confine the reaction to the scale-forming materials and the boiler compound, there might be no valid objection to thus transforming the steam boilers into a huge test tube. But unfortunately the reactions are not always easily confined in this way, and we frequently find that the metal of the boiler itself is affected by the chemical action.

Of course it cannot be successfully denied that chemical boiler compounds have done, and are doing, much to help keep boilers free from scale, but the point to keep in mind is that there is always a certain element of danger connected with their use. Thus such compounds, unless judiciously used, may cause a corrosion of the boiler plate sufficient to impair its usefulness and safety. Certain feed waters contain acids which in themselves are able to attack the inside of the boiler and do considerable damage through pitting of the sheets and tubes. In the presence of certain chemical boiler compounds this action may be intensified with serious results to the boiler.

The above considerations make it evident that if scale can be prevented by some non-chemical method, a source of danger to the boiler, and one by no means negligible, would be removed. As stated in Chapter IV., kerosene has been used in this connection. Its action as a scale remover is doubtless non-chemical in nature, as we have already explained, but it cannot be called a safe scale remover. When used to excess, kerosene has in many cases the extremely objectionable effect of opening up the seams of the boiler. So while its action as a scale remover may be satisfactory, as many engineers know from experience, its use must be tempered with caution, or serious results may follow.

Graphite is now coming into use as a scale remover and preventer. Its action is also non-chemical in nature, and hence no damage to the boiler, such as corrosion or pitting, can result from its use. But graphite has one important point of superiority over kerosene. No damage of any kind can result from its use, no matter if an excessive amount be employed. It cannot disturb the seams, or have any other injurious effect, no matter how much is used. Graphite is a fool-proof boiler scale remover, a valuable point in its favor.

Flake graphite is the best for boiler use, although the amorphous form is also used with success. When introduced into a boiler the graphite penetrates the scale, breaks it up and finally cracks it from the plates. When this scale is removed

from the boiler, which can usually be done by blowing down, it is found to be mixed with graphite. An interior inspection shows that the plates have become covered with graphite in such a manner that scale cannot find a lodgment on the surface.

The use of flake graphite as a lubricant in connection with oil is familiar to most engineers. Now it is quite possible that its action in the boiler is similar to its action in the engine cylinder or bearing. It coats the surfaces until a smooth graphite surface results, upon which scale cannot adhere. Hence the latter simply collects at the bottom of the boiler and can be blown out. This seems to be a logical explanation of its action. At all events graphite is absolutely safe in a boiler, and an efficient non-chemical scale remover.

## CHANCE MEETINGS

I met a Yogi whose pretension  
Was living in the fourth dimension;  
Says he, "It often gets quite chill there!"  
Says I, "Then why not smoke a pill there?"  
Says he, "I'll patent that invention!"

I met a mathematic mystic  
Whose manner was quite egoistic;  
Says I, "What have you went and done, sir?"  
Says he, "But lately on a bun, sir,  
I found a single lone statistic!"

I met a wan and pallid oyster  
Too penitent and meek to royster;  
Says he, "I have been very selfish!"  
Says I, "Cheer up—you're only shellfish!"  
Says he, "You've saved me from a cloister!"

I met on a poetic ramble  
A *vers libre* poet full of gambol;  
Says I, "Why do you wear that dimple?"  
Says he, "Because the thing's so simple—  
I just take words and things and scramble."

*N. Y. Evening Sun.*

## WILL BAR MEN TENANTS

Scheme in St. Louis to Erect Office Building Entirely for Women

A novelty in the way of an office building entirely for women will be erected in St. Louis, according to the daily papers.

There will be women "elevator boys" and women "office boys." The building will be erected by the Woman's Council of St. Louis, composed of fifty-four women's organizations and clubs.

All of the work will be done by women, with the possible exception of the contracting work. The architect will be a woman, and women will handle all of the business dealings in regard to the building.

As the Dixon Paint Department is superintended by a woman, who in turn has women assistants, it is to be hoped that Dixon's Silica-Graphite Paint will be specified by the women for this woman's building. If not, we cannot see how it can be in every way a success.

ENTHUSIASM is a lubricant that makes the wheels of trade go round; a grouch is sand in the bearings. Enthusiasm, like factory melancholia, is catching.—ELBERT HUBBARD.

# GRAPHITIZED.

A Column of Paragraphites and Dixonized Happenings

"I thank you for circulating the Dixon booklet, "Useful Spanish Words and Phrases" in Brooklyn. I have learned the common Spanish phrases and have benefited by them."

"I have been handed GRAPHITE from time to time and as I am employed in railroad work I find it of much interest. Please send it to me regularly."

A little touch of graphite makes the whole world spin! Thanks, Mr. Thomson.

"I find GRAPHITE interesting and enlightening on an important subject."—ALBERT ROSSMAN, Pittsburgh, Pa.

An unselfish reader writes: "GRAPHITE is always received and read with pleasure. It never fails to contain good information and I always make it a point to pass it on to someone else who will be interested."

## ANOTHER SIDE

There's always another side to things,  
Another story to hear;  
There's always something to say for kings,  
For pauper and for peer;  
There's always another story to tell,  
And another witness to trust—  
Don't be sure he is wrong at first  
And tumble him down in the dust!

There's always another side, my friend,  
And the worst are not so bad  
That they shouldn't be given a chance to speak,  
That their fate may still be glad.  
There's always a singular circumstance  
That comes with a little light  
To help the world in its final test  
To judge through the years aright.

There's always another side at best,  
And we'd better not judge at all  
Than to judge when only a part is known,  
Howe'er the balance may fall.  
Wait till the other side is told,  
And take no half truth in  
To settle the fate of a sinful soul,  
For that in itself were sin.—Unknown.

## THE ZIP, ZIP OF YE BULLET

Mr. Edward C. Crossman, in a late issue of *Outing*, tells us that bullets neither whine, hiss, howl, hum or whisper, novelists to the contrary notwithstanding. With one possible exception—when in certain conditions of open country modern military bullets hiss to those standing back of the firing line—nothing is audible except a sharp crash of air closing around the bullet's base when it travels at high speed.

Jack London makes a soldier, hit at 600 yard range, first hear the sound of the modern rifle and then feel the blow of the bullet. But the bullet would have killed him half a second before the sound from the rifle reached him.

Novelists, like poets, have a license not given to other mortals.

## THE REAL THING

With Apologies to "Life"

"If it wasn't for us," said the wheels to the chassis, "the rest of you couldn't go far. We not only support all of you, but how well we do it—with what little friction."

"Perhaps you might mention," said the transmission, "that it is only through me that you turn around. You couldn't move a fraction of an inch on your own volition; we communicate the ability that makes you turn around."

"And who drives you?" said the piston-rod. "I should like to know what any of you could do without me. I'm the main guy."

"Which amuses me immensely," said the cylinder ring. "If I were not perfectly adjusted you'd easily lose half your strength; if I were not on the job constantly none of you could get a move on."

"And who presses you together and makes your compression?" asked the cylinder.

"And who goes off at the right moment and sends you forward?" said the gasoline vapor.

"And who sends you off?" said the electric spark.

"Me," said the switch button. "But seriously, friends, while the glory belongs to all, the fact is we are all dependent on that wonderful lubricant, flake graphite. Were it not for Dixon's Graphite Lubricants what would the "Speed Kings" do? If only one of them used it, he would probably win every race. We are all dependent on each other, and all dependent on Dixon's Graphite for our best work. The wheels need it; the transmission needs it. If the piston rings and cylinders do not use it, the piston-rod may break its heart in over-work. In fact, even gasoline vapor is saved by the use of Dixon's Graphite. Oh, yes, brothers, we simply can't get along as we should without Dixon's Graphite—it would be scrap heap all the sooner."

## THE SPIRELLA COMPANY, INC.

Gluck Building, Niagara Falls, N. Y.

*Joseph Dixon Crucible Company.*

GENTLEMEN:—My acknowledgement of your courtesy in placing me on your GRAPHITE list is tardy—but none the less hearty. I am now emboldened to remind you that "to him that hath shall be given," and so request a copy of your "Useful Spanish Words and Phrases," for which I thank you in the words of "Old Humphrey," "with a grateful heart and a cedar pencil."

Cordially,

R. E. B. HALL.

"There has been much intelligent prejudice, partly inspired for political purposes, against what we call 'big business,' but the people of the country should be convinced that unless our industries can be developed on large-scale production, as is the practice of our great European trade rivals, we shall be seriously handicapped in our quest for foreign markets, because of the inevitably higher cost of production at home."

**THE TIME TEST**

In the endeavor to ascertain the strength and endurance of a paint film, a test is often made in the laboratory, which is satisfactory to many, but not necessarily so to the practical man.

It is the test of time that truly determines the strength, endurance and economy of a paint film.

Dixon's Silica-Graphite Paint has successfully passed the laboratory test, and the test of time in the open. It has been in practical use for fifty years, and probably has more *longest service* records than any known paint. For metal surfaces of all kinds it is the real protective paint.

**GOVERNMENT IN PORTO RICO**

Perhaps there are a great many readers of GRAPHITE who give little thought to Porto Rico and its government, even though Porto Rico is United States territory.

Porto Rico is divided equally into two political sections under the titles of republicans and unionists. The republicans have sixteen delegates and the unionists nineteen delegates.

The control of the political body is in the hands of native-born Porto Ricans.

Efforts are being made for the purpose of dividing up the unoccupied lands among the laboring community to whatever extent any satisfactory arrangement can be made.

According to the *Porto Rico Progress*, a few years will develop the power of the Porto Ricans for self-control and perhaps for self-government.

**TOLD OF A DIXON MAN**

We believe it is the invention of some man who never lets facts stand in the way of a good story, but it is said that while Billy Sunday was laboring to save the souls of sinners in Philadelphia, a Dixon man said: "I do not refuse to believe in the story of the ark. I can accept the vast number of animals it contained; but when I am asked to believe that the children of Israel carried this unwieldy thing for forty years in the wilderness—well, I am bound to say that my faith breaks down."

**NEW YORK "SUN" WIT**

I find myself envying those who touch with the closest possible contact the genuine stuffs whether of the animate or inanimate world.—PRESIDENT WILSON.

Mr. Wilson has no real cause to envy anybody on this score. He is in close proximity to some of the greatest stuffs in the whole animal world.

**THE SUBTLE COMMA**

A pencil being sharpened by the pretty new stenographer is quoted in a recent issue of GRAPHITE as having said, "There's a divinity that shapes our ends."

"Better," says Mark A. Brown, who hails from Kokomo, Ind., "there's a divinity that shapes our ends rough, hew them as we will."

It's sort of rough on the girls, but we take our hats off to you, Mr. Brown!

— these pictures represent for hardware and paint dealers a wide field for the sale of protective paint for all types of structural steel and exposed metal surfaces. Introduce

**DIXON'S SILICA GRAPHITE PAINT**

to your customers as the preservative coating specified by the leading architects, engineers, superintendents and others where quality, durability and real economy is desired. Dealer's price list No. 190-B, color card, booklet, etc.

Made in Jersey City, N. J., by the Joseph Dixon Crucible Co.  
Established 1827

READY MIXED  
**DIXON'S**  
SILICA-GRAFITE  
**PAINT**  
FOUR COLORS  
JOSEPH DIXON CRUCIBLE CO.  
JERSEY CITY, N.J.

## TRADE EXPANSION

## Certain Deep Questions Underlying It

Quoting from *The Americas*, published by the National City Bank of New York, Mr. Alba B. Johnson asks certain questions without attempting to answer them.

One of the essentials which has been found to be necessary by every country engaged in foreign business is the necessity of conforming to the conditions of competition existing in that business. As Mr. Ryan so well expressed it, if we are going to row a match on the Thames we have got to row it according to the rules of the Thames Rowing Club. If we are going to sell our goods in foreign countries we have got to meet the prices which are current in those countries. If we meet the prices which are current in those countries and establish all of our sales in every country and at home upon that basis, it means to us ruin. If we can get from a foreign country a price which will cover the material, the labor and all or a good part of the overhead, we can extend our business into foreign markets and in time control that market so that we can make our prices there, it is good business for us to do it.

The questions to be asked are:

1. Has public opinion in the United States arrived at the point where it will deliberately approve, under conditions of necessity, that American business men shall make lower prices for their export goods than those which are sold at home?

2. Are our people going to approve of creating one rate of discount for domestic transactions and another rate competitive with the rates which are established throughout all of the commercial countries of the globe for foreign bills?

3. Are we sufficiently in earnest in supplementing our home business and creating for our American workmen, with all of the disadvantage to the manufacturer of their higher scale of living, their higher rates of wages, are we going to authorize our railroads to make joint rates with steamship lines so that the manufacturer in St. Louis or Chicago or any other point in the interior of the country can be placed upon a favorable basis of competition so far as competition is concerned with the inland manufacturer of Germany or England or France?

These are the essential questions to be answered by the people of the United States through the men they send to Washington to represent them.

## GRATITUDE?

The horse had run away and was tangled up in the wire fence at the side of the muddy road. Its half-witted owner had kicked and sworn and tried to lift the animal till he was out of sorts and covered with mud.

A well groomed man came along, took in the situation, and suggested: "Spring the fence back, then he can get his feet free."

The owner of the horse did as he was told. "Now give him a cut with the whip and he'll get up himself."

This the owner also did. Then he looked at the horse, up and ready for travel, looked at himself covered with mud, and looked at the immaculate gentlemen in the road. Wrath filled his soul.

"Well," he grumbled, "thank you just as much as if you'd helped me."—*Everybody's*.

## THE VALUE OF DIXON'S SILICA-GRAFPHITE PAINT IN BOILER PLANTS

The Dixon Company has a power plant in Jersey City of 1800 H. P., consisting of five B. & W. boilers. For the past two and one-half years, Mr. C. A. Moore, superintending engineer, has used Dixon's Silica-Graphite Paint for coating the inner surfaces of steam drums, both above and below the water line. He also makes use of Dixon's Paint for coating the outside of mud drums and nipples to prevent corrosion, as well as for boiler fronts, and any and all metal surfaces in the boiler room.

We quote the following testimonial letter from a well known and able engineer.

NEW YORK, January 28, 1915.

*Joseph Dixon Crucible Company,*

*Jersey City, N. J.*

GENTLEMEN:—It may interest you to know how, about eleven years ago, when in charge of the Arbuckle Sugar Refining Plant, foot of Pearl Street, Brooklyn, N. Y., I overcame some very serious trouble with my boilers.

The plant was equipped with B. & W. boilers, developing 8400 H. P. The trouble was caused by pitting in the steam drums.

After trying various supposed remedies, with but little success, I got some of Dixon's Silica-Graphite Paint and, after scalding them, painted each of the drums inside, allowing them forty-eight hours to thoroughly dry.

Up to the time I left Arbuckle's four years later, these boilers were treated this way every ten months. Not only did it stop the pitting, but where previously it had taken six men seven days to clean the drums of one boiler, two men now cleaned them in a day.

I can certainly recommend Dixon's Silica-Graphite Paint to any engineer who has boilers that are giving him trouble of this nature.

Truly yours,

(Signed) P. HEELY,

*Chief Engineer, New York Life Insurance Building.*

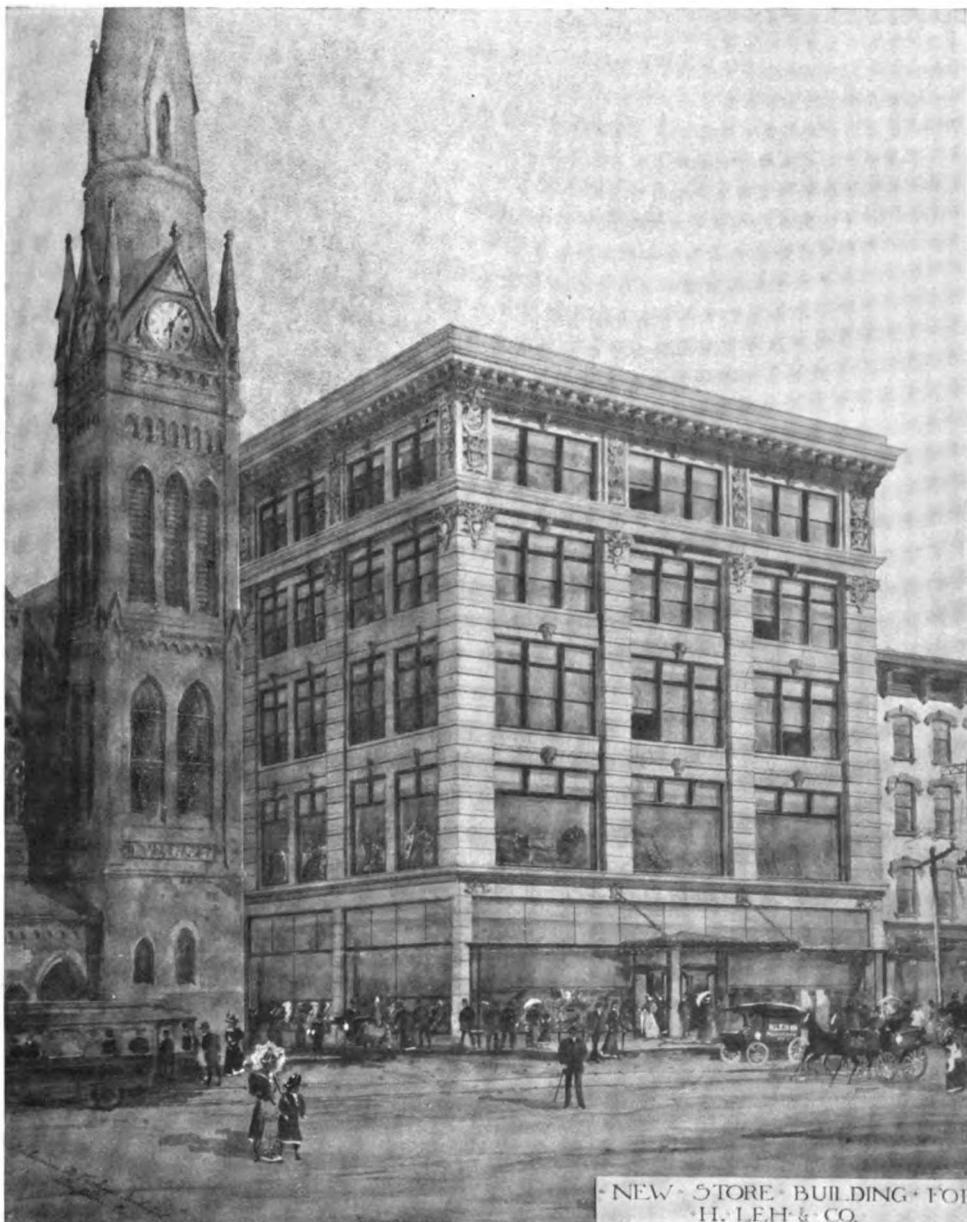
THIS "Made-in-America" toast is from *Zowie—Some Magazine*:

Maiden America,  
Here's to you;  
Your worth is known  
As your worth is true.

Your style's my style  
And your ensign blue;  
Oh Maiden America,  
I'm for you!

WHILE we are told that reading in bed is a bad habit, yet persons who are accustomed to reading in bed may be interested to know that a new electric-light fixture, which can be attached to the bed rail, has been developed and is described in the *Electrical World*. It is especially adapted to use in hospitals or doctors' offices, where the illuminated area has to be shifted frequently.

DIXON'S graphite publications sent free upon request.



### LEH BUILDING, ALLENTEOWN, PA.

The scene pictured is suggestive of that busy corner in Manhattan, at Eleventh Street and Broadway. Its real location is in Allentown, Pa.

The store building, like that of the great merchant prince's, is an important landmark in its own city and was built for H. Leh & Company, from the plans of Mr. Ephraim M. Pickin, also of Allentown, Pa.

The steel work of the Leh Building is protected against rust and decay with Dixon's Silica-Graphite Paint; and like the paint, the structure promises a long and useful life.

### NEW VERSION OF MAUD MULLER

One of the most popular poems ever written was that about Maude Muller gathering the hay crop. Here's a new version of the poem as printed in the *Easton Sunday Call* and reprinted by the *Washington Star*.

Maude Muller on a summer day  
Watched the hired man rake hay.  
She laughed and chortled in her glee,  
When up his pants leg crawled a bee.

Later the farm hand laughed in turn  
When a big grasshopper crawled up her'n.

"GRAPHITE received regularly during the past year, is valued and interesting and has been read with benefit by the members of the Mining Association."

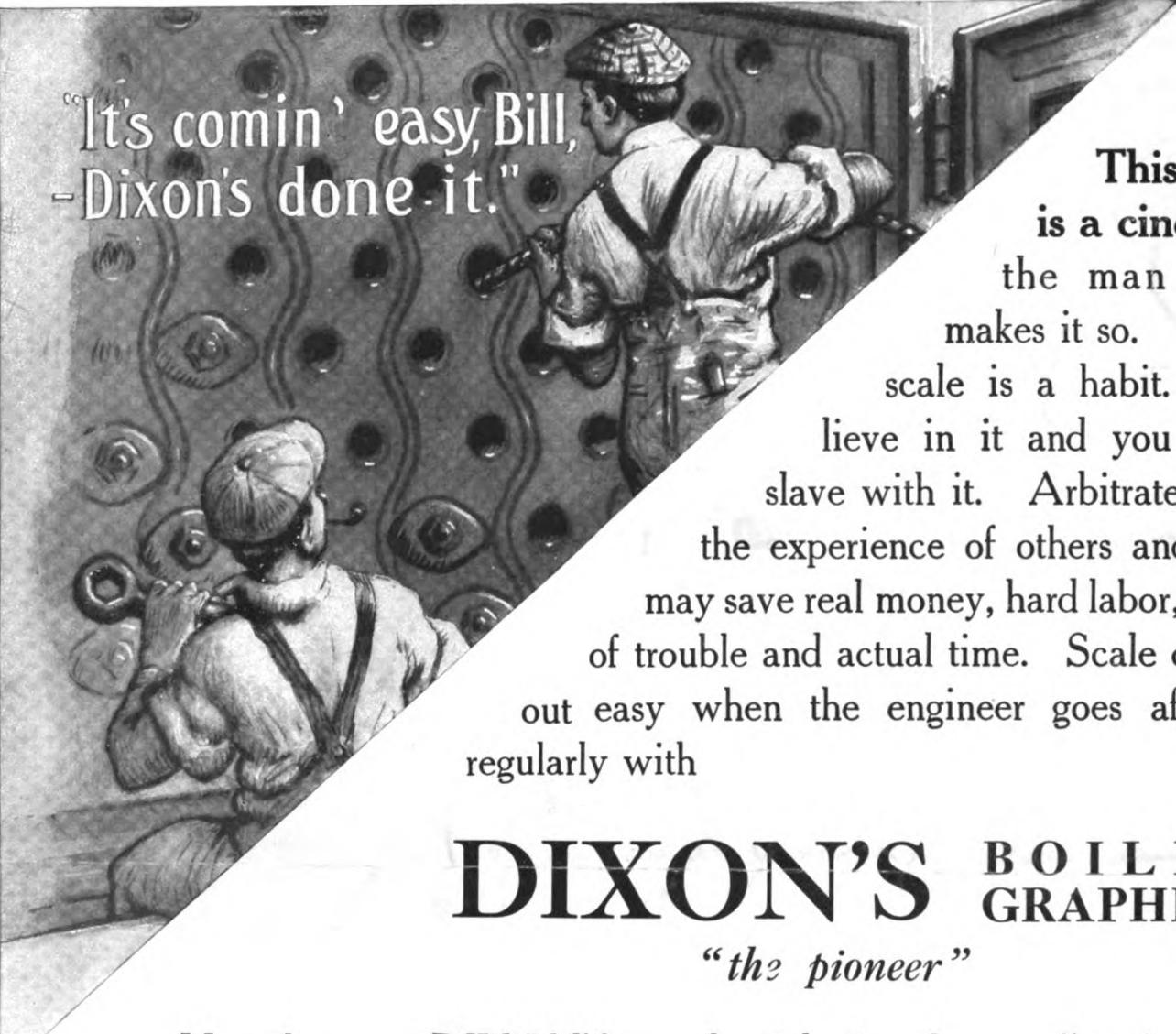
—Librarian, University of California, Berkeley.

IT IS SAID that every time a warship fires one of its fifteen inch guns an entire bale of cotton is used. That is, it takes an entire bale of cotton in the making of the smokeless powder for that one charge.

THE MORE you say the less people remember.

—*Kreolite News*.

AN AUTOMOBILE worth the running is worth lubricating with Dixon's Graphite Lubricants. It means so very much to the machine and so very much to the owner.



"It's comin' easy, Bill,  
-Dixon's done it."

This job  
is a cinch to  
the man who  
makes it so. Hard  
scale is a habit. Be-  
lieve in it and you must  
slave with it. Arbitrate with  
the experience of others and you  
may save real money, hard labor, loads  
of trouble and actual time. Scale comes  
out easy when the engineer goes after it  
regularly with

## DIXON'S BOILER GRAPHITE

*"the pioneer"*

He who puts DIXON'S on the job "washes out" only once  
to the other fellow's three or four times. He who prescribes the  
gentle, easy mechanical action of DIXON'S, saves, in like proportion, the  
terrific action of the turbine. Break away from harsh chemicals, and don't  
forget that "it's all in the flakes" of DIXON'S BOILER GRAPHITE.  
No other form of graphite fights the formation of hard scale so persistently  
and successfully as DIXON'S.



190-T is the number of a free booklet about  
boiler scale that's worth the time and postage



Made in JERSEY CITY, N. J., by the

# JOSEPH DIXON CRUCIBLE COMPANY

Makers of Crucibles, Paints, Pencils, Lubricants and other Graphite Productions

ESTABLISHED 1827

EXHIBIT  
OF THE  
UNIVERSITY OF ILLINOIS  
20 MAY 1915

# Graphite

Issued in the interest of Dixon's Graphite Productions, and for the purpose of establishing a better understanding in regard to the different forms of Graphite and their respective uses.

Vol. XVII

May, 1915

No. 5



Display of Dixon's Pencils by Educational Equipment Co. (See Page 3879)

ESTABLISHED 1837



INCORPORATED 1868

**JOSEPH DIXON CRUCIBLE CO.**

JERSEY CITY, N. J., U. S. A.

Miners, Importers and Manufacturers of Graphite,  
Plumbago, Black Lead.**OFFICERS:**

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ST. LOUIS OFFICE, 501 Victoria Building

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BUFFALO OFFICE, 72 Erie County Savings Bank Building

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Graphite Products, Ltd., 218-220 Queen's Road, Battersea, London

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National Paper and Type Company, 31-35 Burling Slip, New York  
With Branch Agencies in Mexico, Cuba, Peru, Argentine,  
Uruguay, Venezuela, Porto Rico and Colombia**POSTAGE ON HOUSE ORGANS**

The Joseph Dixon Crucible Company has published a house organ since December, 1898. The title of this house organ is GRAPHITE. It is strictly a house organ and has never taken an advertisement of any kind. Being a regular house organ, it has not received the privilege extended to papers or periodicals carrying advertisements.

The postage per copy is one cent against magazines of same weight which cost only one-eighth cent, and which have the same circulation.

GRAPHITE is a publication carrying not only information in regard to Dixon's Products, but other information of such value that GRAPHITE is asked for by secretaries of public libraries, college libraries and others.

The National One-Cent Letter Postage Association, with its headquarters at Cleveland, Ohio, and whose work is in charge of Charles W. Burrows, President, and George T. McIntosh, Secretary-Treasurer, believes that all publishers of house organs should become interested in the cost of mailing same, as compared with the cost of mailing magazines of equal weight.

The house organs are being mailed under third class mail at a cost of one cent for two ounces, which is practically the cost of service. Magazines are mailed under second class rate, which is one cent per pound, although it has been demonstrated that it costs the government over eight cents per pound to handle second class mail matter.

The National One-Cent Letter Postage Association believes that all publishers and all who are interested in one-cent letter postage should become interested in this movement, and any one who is interested, should address Mr. George T. McIntosh, Secretary-Treasurer, 1104 New England Building, Cleveland, Ohio.

**THE NOTS AND BUTS OF GOOD BUSINESS AS WE SEE IT**

Not long face hard-luck stories, but red-blood optimism.

Not surrender to conditions, but greater effort to win.

Not graft, but service.

Not bluff, but the truth.

Not arrogance, but courtesy.

Not cut-prices, but better values.

Not war, but co-operation.

Not get-rich-quick returns, but a fair profit.

Not our advantage only, but mutual satisfaction.

Not some future time, but right now.

—With the Compliments of the School Arts Publishing Co.

**A QUESTION OF HEARING**

The burly farmer strode anxiously into the post office.

"Have you got any letter for Mike Howe?" he asked.

The new postmaster looked him up and down.

"For whom?" he snapped.

"Mike Howe," replied the farmer.

The postmaster turned aside.

"You don't understand," roared the applicant. "Can't you understand plain English? I asked you if you've got any letter for Mike Howe!"

"Well, I haven't," snorted the postmaster. "Neither have I a letter for anybody else's cow. Get out!"—*Answers.*

# Teddy Tetzlaff at Hamburger's

*—The world's record holder for road races will write a lubrication prescription for your car tree—tell him your lubrication troubles.*



stakes Race at Indianapolis last May used Dixon's Graphite Automobile Lubricants.

## TEDDY TETZLAFF TURNS LECTURER

In the *Los Angeles Times* of March 14, 1915, there appears the announcement of "Teddy Tetzlaff at Hamburger's." Hamburger's is the Great White Store that is advertised as the leading auto supply house in Los Angeles. Tetzlaff is the "Terrible Teddy" of automobile racing fame, and the late holder of the world's road racing record. The liberal policy at Hamburger's in educating the automobile public of Los Angeles to the importance of better lubrication is responsible for the recent engagement of Tetzlaff to demonstrate the subject of lubrication from the speed king's point of view.

Tetzlaff is a graduate from the school of hard experience. Reckless as his driving sometimes appears, he is always careful in the selection of his racing equipment. Each part of his equipment receives its special examination in a trial spin of perhaps ninety miles an hour and his selection is always made regardless of a manufacturer's claims. Using the famous Maxwell "Seven" and a Maxwell touring car in his demonstration at Hamburger's, Tetzlaff devoted three days of the week during which the Venice Race occurred, to prescribing proper lubricant for troubled car owners. His recommendations were written and signed upon prescription blanks.

It is only necessary to recall Tetzlaff's well known declaration of: "I would rather pay \$5.00 per pound for Dixon's Graphite Automobile Lubricants than to use any other as a gift," to realize that Los Angeles was educated and converted to the practice of graphite lubrication in the form of Dixon's Graphite Automobile Lubricants.

Car owners who visited Hamburger's realized the special value of securing expert advice from the noted speed king. It proved to them to be a happy combination of the time, place and the man.

—Teddy Tetzlaff, the world's famous racing expert, who averaged 97 miles per hour in the elimination trials at Indianapolis, will be in Hamburger's Auto Supply Dept. from 10 to 12 a. m. and 2 to 4 p. m., Monday the 15th, Thursday the 18th, and Saturday the 20th inst., using his—

## Famous "Maxwell" No. 7

—as well as a "Maxwell" touring car (which may be converted into a camping car) for demonstration purposes. Mr. Tetzlaff will make free diagnosis and give you a signed prescription that will put an end to your lubricating worries. Let him explain to you why forty of the forty-five entrants, twenty-five of the thirty who qualified, and nine of the ten winners of the Fourth Annual 500-Mile International Sweep-

stakes Race at Indianapolis last May used Dixon's Graphite Automobile Lubricants.

## DIXON'S "WONDER" CUPELS

The Joseph Dixon Crucible Company, Jersey City, N. J., have put on the market what they term "Dixon's Wonder Cupels."

These are made in three sizes,  $1\frac{1}{4}$  inches,  $1\frac{1}{2}$  inches and  $1\frac{3}{4}$  inches in diameter.

"Dixon's Wonder Cupels" will be found to be a veritable joy to refiner and assayer. They are strong and handable and the absorption of silver into the cupel is much less than with cupels made from bone ash, when used under similar conditions. They are made of such strength that they will not break in handling, and are just what the assayer has for years wished for.

Packed in lots of 100, 500 and 1000.

The foreign manufacturing districts where clay and sand crucibles are made, are in so deplorable a state at present that it has been a question for some time past if it would be possible for them to fill the demands of our country's laboratories and refiners on these necessary articles at all.

The Joseph Dixon Crucible Company have now yielded to the repeated urgings from the users of assay crucibles, scorifiers and goods of a like nature, so that at present they have a fairly complete line of this class of goods. So far the sale has not been of so great a volume that they have been able to compete in price with foreign makers, but as scarcity increases and larger orders are secured there is little doubt but that as low, or possibly lower, prices can be made than imported goods of a similar nature now sell at.

YOUR EDUCATION is never over; a trade is never learned; no man can digest his business, and it is even hard to keep up with it.



**TROLLEY POLES, INTERNATIONAL RAILWAY,  
BUFFALO, N. Y.**

The above interesting photograph shows the monument erected in memory of President McKinley at Buffalo, N. Y.

The trolley poles of the International Railway, also shown in the photograph, are painted with Dixon's Silica-Graphite Paint, which is a protective paint for all metal work and widely used for street railway apparatus because of length of service and therefore "greatest yearly economy." It is made in *one quality only*—the *best*; pure, boiled linseed oil only being used as the vehicle.

A pure, that is, an all-graphite paint will not be a durable paint, any more than a twenty-carat, pure, gold chain will be a durable chain. The silica in Dixon's Silica-Graphite Paint insures durability the same as the copper in a fourteen or sixteen-carat gold chain insures durability.

**PRIER BRASS MANUFACTURING COMPANY**

KANSAS CITY, Mo., March 17, 1915.

*Joseph Dixon Crucible Company,*

*Jersey City, N. J.*

**GENTLEMEN:**—Referring to your kind favor asking our experience and results in using Dixon's Boiler Graphite in our steam boilers, wish to say that now that we have used this material for a considerable length of time, we feel perfectly safe in recommending it and using it freely. We are very proud of the condition of our boilers and we have been highly complimented by the boiler inspectors. It is certainly the best material that we have ever used for the purpose and by far the most economical.

Yours very truly,

PRIER BRASS MFG. COMPANY,  
W. H. P., *General Manager.*

**TWO OPTIMISTS**

When the whole blamed world

Seems gone to pot,  
And business is on the bum;  
A two-cent grin,  
And a lifted chin,  
Help some, my boy, help some.

"Tis easy enough to look pleasant,  
When life goes along like a song,  
But the man worth while  
Is the man who can smile  
When everything goes dead wrong.

**APPLE CONSUMPTION OF OUR FIRST PARENTS**

The following statistics have been gathered at great expense: "It could be said Eve 8 and Adam 2, a total of 10; also that Eve 8 and Adam 8, too, total 16; but if Eve 8 and Adam 82 the total would be 90. Now if Eve 81 and Adam 812 the total would be 893, then if Eve 811st (first) and Adam 812, the total would be 1623, or again if Eve 814 Adam and Adam 81242 oblige Eve the total would be 82056; though it is admitted Eve 814 Adam, Adam if he 8181242 keep Eve company, total 8,182,056. But this is all wrong. Eve when she 81812 many, and probably felt sorry for it, and Adam, in order to relieve her grief, 812, therefore Adam, if he ate 81814242fve Eve's depressed spirits. Hence both ate 81,896,866 apples.

AT A RECENT meeting of mechanical engineers, a professor in one of our Eastern universities told a Dixon representative, that whenever he buys graphite he always specifies "Dixon Graphite," because he knows that it will be of the same grade and quality as he had before.

## A LITTLE SERMON ON LEAD PENCILS

By REV. S. D. CONGER, Portsmouth, O.

With a Very Human Interest Running Through It

Shakespeare says that there are sermons in stones, and in brooks, and in other things. Maybe there are sermons in lead pencils—let us see. I first notice there is a rubber on the end of the pencil. That rubber is to erase—erase mistakes.

For instance, you misspell a word and you need a rubber to erase your error.

Every person needs a rubber in his life—a something to rub out mistakes.

If you made a failure yesterday, are you to retain the thought of it forever?

Why, no, you are to "erase" it, and start over again.

Look at Cyrus W. Field. He stretched the Atlantic cable along the bottom of the sea. It snapped.

What did he do? Sit down and cry? No, indeed, he erased that failure—he "rubbed it out."

After a while he laid another cable. *It* snapped. Out came his rubber tipped pencil, the failure was erased and new figures made.

He laid five cables. He sank five fortunes in the sea. But he erased every failure from his paper and from his mind.

A sixth cable he laid and it did not snap—it stayed.

Because you failed in your song yesterday, are you not going to try and sing today or tomorrow?

Say, brother business man, did you make an assignment last month? Well, what if you did? Take out your pencil, rub out the mark and start over again.

To keep our past failures ever before us would cause us to continue to fail. We even need an eraser for the other man's mistakes. What are we to do with the wrong he did us? Keep it ever before us? No, rub it out.

Brother man, if your pencil hasn't a rubber on it now, put one on, or throw it away and get a pencil with one.

There is also a lesson in the wood of a pencil. The wood in my pencil isn't mahogany, nor any expensive wood like that—it is just plain, common, every-day cedar wood, and yet it makes good, it serves its purpose better than any of the costly, expensive woods. It is because it is straight-grained; it cuts true when the knife is applied; it is not cross-grained; it contains no knots; it is not that pretty, wavy wood which is so often admired.

It is so in life. It is the boys that are straight-grained, that have no warps and no defects in them that reach the top.

Nearly every one of the presidents of the United States was poor, but always cut true because they were straight-grained.

Look at Lincoln—ordinary cedar from head to foot, but clean, straight-grained, and he became one of the greatest men America ever had.

Nearly every prominent man in my town—heads of banks, factories and stores, started poor.

It is also worth your while to pay attention to the name on the pencil. My pencil has the name on it of "Dixon." It would humiliate the maker of that pencil if it should behave in such a way as to bring disgrace to the name Dixon. You may be sure that when the manufacturer stamps his name on a pencil he puts the best that is in him in that pencil. He may make over 800 different kinds of pencils, as I understand the Dixon Company do, but every pencil that bears the name

Dixon has character and worth in it. The quality is there, in the rubber, the wood, the lead, and even in the finish of the pencil—otherwise it would not bear the name Dixon.

I want to say to you boys and girls that your father's name and your mother's name is on you, and they want you to keep it a thing of respect. And that isn't all—God's name is on you.

Let us consider the point of the pencil. Unless the pencil is pointed and the wood whittled away, it is of no account. Neither are you, my friends, unless you have been through the sharpening process. You may not like the experience that sharpened you, but it was the making of you.

When you become a soldier you may not like the drill, but it is the drill that makes you walk erect and enables you later to write "General" before your name. You may not like the idea of practicing hour after hour, but that's what turns you into a Patti. Sharpening hurts, but it pays.

The object of the lead of the pencil is to make a mark, and that, my friends, is what we are for—to make a mark. But let us remember that we cannot make our mark everywhere. The best lead pencil will make no mark on a varnished desk, or on a stove, or on a window pane, but it will make a mark on paper. People are like that. Every one can make his mark, but only along certain lines. In some things, some people can make no success at all, and in other things a little success, and still other things, abundant success. The thing to do is to find out what that thing is in which you can make a success, and then do it. If you were intended to be a farmer, don't try to make of yourself a preacher, or a composer, or an artist.

This is my little sermon on the lead pencil, and its five heads are—Rubber, Wood, Name, Point and Lead.

"WE ENJOY every number of GRAPHITE. It goes on the school reading table. The jokes are "right" and always please and have the "linger" habit. Please keep us on your list as long as you have such good things."

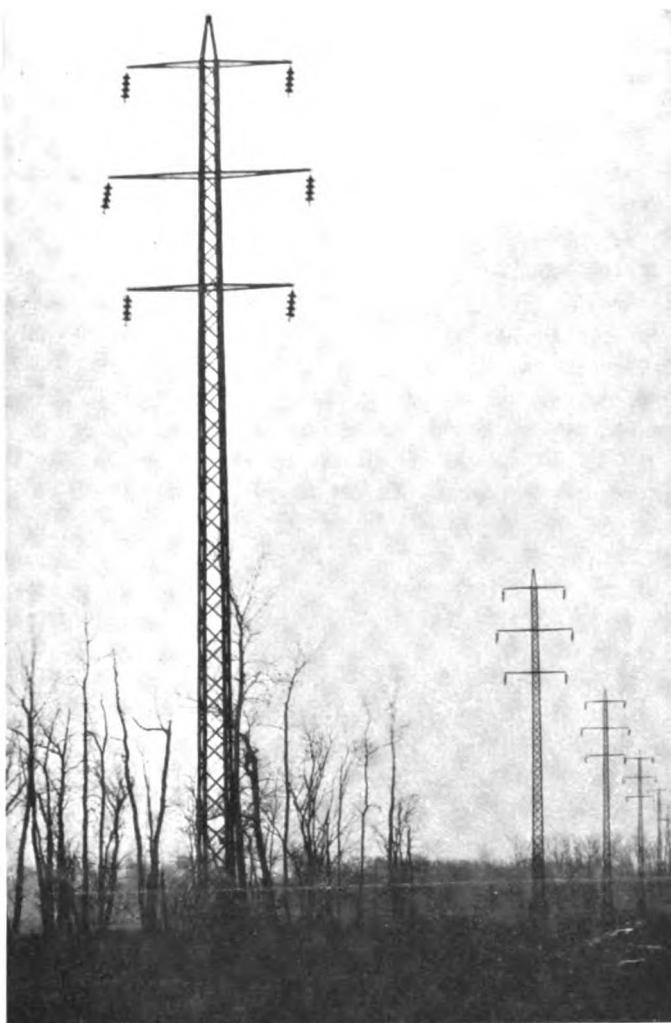
Friction and common lubricants are the grand little team for ruining the finest cars made.

**DIXON'S**  
**Graphite Grease**  
No. 677

For Transmissions and Differentials  
The selected flake motor graphite forms over bearings and gears a velvety, oily veneer that lets graphite ride on graphite and prevents metal-to-metal contact.

*The Dixon Lubricating Chart gives helpful lubrication information. Sent free.*

JOSEPH DIXON CRUCIBLE CO.  
Established 1827  
Jersey City, N. J.



**TRANSMISSION POLES, AMHERST POWER COMPANY, WEST SPRINGFIELD, MASS.**

The above photograph shows part of a short line of Coombs Type "A" Poles at West Springfield, in the high tension transmission line of the Amherst Power Company, between Turner's Falls and Springfield, Mass.

These structures carry one overhead lightning protection wire, and two three-phase 66,000 volt circuits of No. 0 copper cable. It will be noted that the conductors are arranged in the typical modern high tension spacing, *i. e.*, vertically, with the middle crossarm extended, in order to minimize the possibility of conductor contact.

These poles are about seventy feet high above the foundations, and the foundations were carried some distance above the ground, with anchorage angles set in advance in order to provide against the possibility of flood water overflow in the locality in question. The poles were shop riveted in two sections for ease in handling, in shipping and in the field, and they were painted, before shipment, with Dixon's Silica-Graphite Paint.

The work was built by R. D. Coombs & Company of New York, under the direction of Mr. E. L. Hunt, chief engineer of the power company.

DIXON'S graphite publications sent free upon request.

## CRUCIBLE SITUATION

The sharp advances that have taken place in the raw materials from which plumbago crucibles are manufactured, and the increase the crucible manufacturer has been forced to price his finished goods at, have, after all, made so trifling an increase in the cost of producing brass castings and non-ferous tubes, rods and sheet metals, that the additional cost to the brass users of crucibles can hardly be figured. For instance, a No. 50 crucible will run from thirty to forty heats—though there are many of our customers who claim much more than this, but take thirty heats as an average—and considering that 150 pounds of metal can be gotten from each melt, therefore 4500 pounds of metal can be secured from each No. 50 before its usefulness is past, so that a No. 50 crucible, costing \$3.00, will at its minimum life give to the caster fifteen pounds of metal for every cent he pays for the crucible.

The crucible steel caster, however, feels the situation a trifle more keenly. With him the advance of twenty percent on his crucible bills means fifty cents on each 400 pounds of metal melted, or one-eighth cent per pound, and this, while not quite reaching the prices paid during the Spanish War, comes very near doing so.

How long this condition will continue is, of course, a matter of conjecture.

We are living in unusual times, and most anything is possible. However, the fact remains that the Joseph Dixon Crucible Company, having started in the manufacture of plumbago crucibles in 1827, will continue doing as they have for the past eighty-eight years, so that our customers may be of good cheer; war or no war, plumbago embargoes or no embargoes, crucibles will be made by us to the end of the chapter.

## WAS "JUST AS GOOD"

"Good morning, sir," volunteered the cheery garageman.

"Good morning" echoes the up-to-date automobilist.

"Do you sell Dixon's Graphite Automobile Grease No. 677?"

"Well—er—no; but here is something just as good at fifteen cents a pound."

"Just as good?" doubtfully.

"Yes, indeed. In fact," confided he, "superior to the real article. Five or ten pounds, sir?"

"Five," with suspicious slowness. "Here's your money."

"But, sir," in confusion, "you have made a mistake. This isn't money."

"No?" agreeably.

"Why, no. These are cigar coupons."

"So they are, but they represent seventy-five cents, and while it isn't actual money, it's just as good."

Salesman collapsed.—Adapted from *Paint*.

WE ASK no one to believe what he may happen to hear some one say about Dixon's Lubricating Graphites, as the confirmed user of Dixon's Graphites detests arguing with anybody about anything,—he is too well contented and too happy to be disturbed.

A FRIEND is a person who is "for you" under all circumstances. Dixon's Graphite Lubricant is "a friend" to the man who drives an automobile.



**HERMAN PRICE**

In the business arena a knowledge of the contraction and expansion of words is a most useful possession. Fourteen years ago Mr. Herman Price began to fill note books with words relating to the graphite industry. His chirographical efforts, created by the use of a Dixon Pencil, gave him a mental business impression that even a Dixon Eraser could not efface. His job as a stenographer in the Philadelphia office of the Dixon Company soon became that of assistant manager, and he now assumes charge, at Jersey City, of the entire pencil sales department.

Mr. Price begins his new position with the able and experienced co-operation of Mr. Richard Van Dien who, for thirty-five years, has helped to make the name of Dixon the buy-word among those who use pencils. Mr. Van Dien will serve in an advisory capacity and will continue to direct his efforts toward greater and more efficient pencil sales. Mr. Van Dien is the creator of the famous Dixon Brownies which have for many years helped to advertise Dixon's Pencils throughout the country.

It is more than four years since the photo-engraver has had an opportunity to work upon a likeness of Mr. Herman Price. Our picture of Mr. Price in this issue of GRAPHITE must not, therefore, be taken too literally.

#### ANNUAL MEETING OF THE JOSEPH DIXON CRUCIBLE COMPANY

The annual meeting of the stockholders of the Joseph Dixon Crucible Company was held at the company's office in Jersey City, on Monday, April 19, 1915.

There was present a large attendance of stockholders who expressed their satisfaction with the present management and re-elected the former Board of Directors for the ensuing year.

The vote recorded was the largest ever represented at an annual election—19,519 shares out of a possible 20,000.

No changes were made in the personnel of either the Board of Directors or the officers of the company as listed elsewhere in this issue of GRAPHITE.

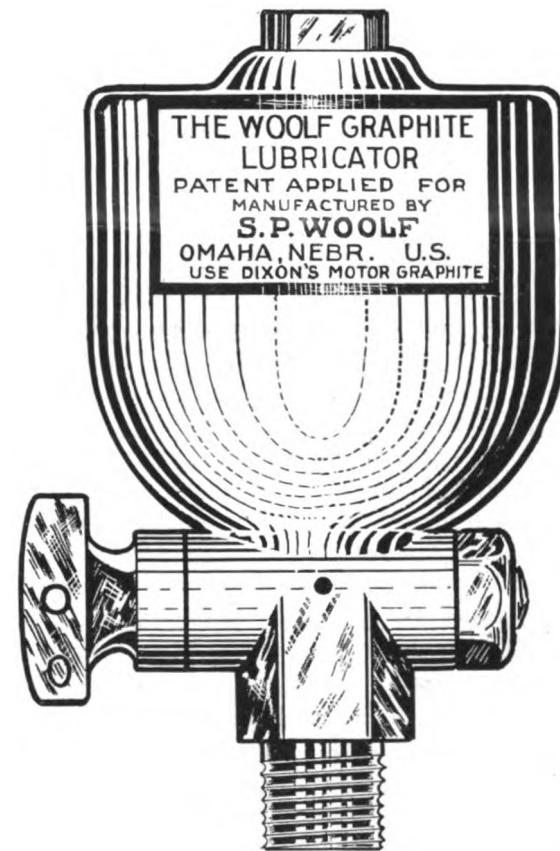
**CABARET:** The device that took the rest out of restaurant and put the din in dinner.

#### WOOLF GRAPHITE LUBRICATOR

Mr. S. P. Woolf of 3024 Ames Avenue, Omaha, Neb., is the inventor of a new lubricator for supplying a non-combustible lubricant, such as Dixon's Motor Graphite to all types of internal combustion engines.

On automobile engines the Woolf Lubricator may be attached at the "Y" on the intake manifold or fastened upon the dashboard and connected to the manifold by tubing. From either place the engine suction easily distributes graphite to all cylinders. The lubricator cup is filled with graphite which is fed to the cylinders in small quantities each time the lubricator valve is turned. An ingenious rod arrangement permits the valve to be operated from the dashboard where it is always within emergency reach.

For such lubrication only the choicest form of selected flake graphite, ground to extreme fineness, is recommended. Used judiciously, such a lubricant greatly improves the operation of internal combustion engines. Only a very little of it is required to build up the cylinder walls to such marvelous smoothness that very little lubricating oil is required. It improves compression, prevents valves from sticking or pitting and cures smoky exhaust.



There are many kinds of graphite on the market and the Dixon Company itself manufactures at least a hundred different grades, but among all of these grades the manufacturer of the Woolf Lubricator wisely selects and recommends the use of only one—Dixon's Motor Graphite. It is the only form and grade of graphite that should ever be used in gas engines.

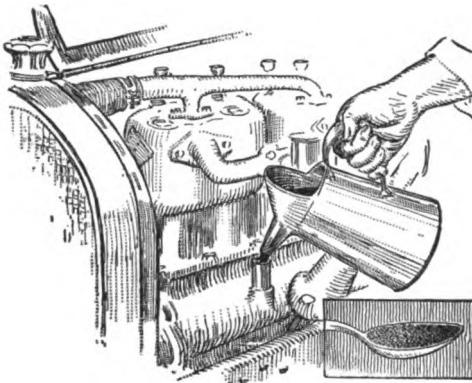
For GRAPHITE readers interested in better cylinder lubrication Mr. Woolf has a folder fully descriptive of this new device.

DIXON's graphite publications sent free upon request.

### DIXON'S MOTOR GRAPHITE

Put up specially for motor cars, motor boats and motorcycles. Use it in cylinders, on chains, springs, tires, wheel rims, bearings and wherever friction occurs. May be used dry or mixed with oil or grease as required. Its use eliminates friction and wear of parts and increases power. Try it in place of talc in tires.

Dixon's Motor Graphite is unique among lubricants. It is not a competing product with oil or grease, but the lubricating value of any oil or grease is always increased where it is possible to add the correct amount of Dixon's Motor Graphite.



When properly used in cylinders it improves the compression, increases power, prevents valves sticking or pitting, greatly reduces the amount of lubricating oil required, and cures smoky exhaust.

It will not carbonize.

Sold in one-half, one and five pound cans. Larger packages if desired.

**BEAUTY** and finish is but skin deep in many things, and the secret of the popularity of Dixon's American Graphite Pencils, no matter what brand, lies inside of the wood and finish.

The smooth, tough, black graphite lead that runs unbroken the full length of the Dixon American Graphite Pencil is the real secret of the popularity of that pencil.

It is the pencil least advertised and yet perhaps most widely known of any lead pencil. Dixon's American Graphite Pencil is also the youngest of all the lead pencil family—other brands dating back their birth a hundred years and more earlier than the Dixon. We emphatically believe in advertising, but a user of Dixon's American Graphite Pencil said to us sometime ago, that if Dixon advertised the same as the other pencil companies, Dixon would be obliged to double their present capacity. Dixon's Eldorado Pencils lately put on the market are made in fourteen degrees of hardness, and architects and engineers who have tested them carefully say they are every way equal, if not superior, to the finest pencil ever brought to their attention.

### "SEQUOIA"

"Sequoia" is a Brand Stamped on one of Dixon's Pencils

It is made in round shape and hexagon shape, yellow finish, and three grades of hardness. It has been a very popular pencil on the Western Coast, the name having been chosen by the branch manager of the Dixon office in San Francisco. There is a beautiful legend attached to the word "Sequoia" and an Indian chieftain, which we have printed in a former

number of GRAPHITE. Sequoia is also the name of a huge species of trees of California known as *Sequoia Washingtoniana*. Every one has probably heard of the vast size and great age of the Sequoia trees. The trunk of a well-grown specimen has a diameter of twenty or thirty feet, which is equal to the width of an ordinary house. Such a tree often towers 250 or 300 feet, and within fifty feet of the top the trunk is still ten or twelve feet in thickness.

Three thousand fence posts, sufficient to support a wire fence around 8,000 or 9,000 acres, have been made from one of these giants, and that was only the first step toward using the huge carcass of the tree.

Six hundred and fifty thousand shingles, enough to cover the roofs of seventy or eighty houses, formed the second item of its product.

Finally there still remained hundreds of cords of firewood which no one could use because of the prohibitive expense of hauling the wood out of the mountains.

The upper third of the trunk and all the branches lie on the ground where they fell, not visibly rotting, for the wood is wonderfully enduring, but simply waiting till some foolish camper shall light a devastating fire.

A Sequoia tree that has lived 500 years is still in its early youth; one that has reached the age of 1,000 years is only in full maturity; and old age does not come for seventeen or eighteen centuries.

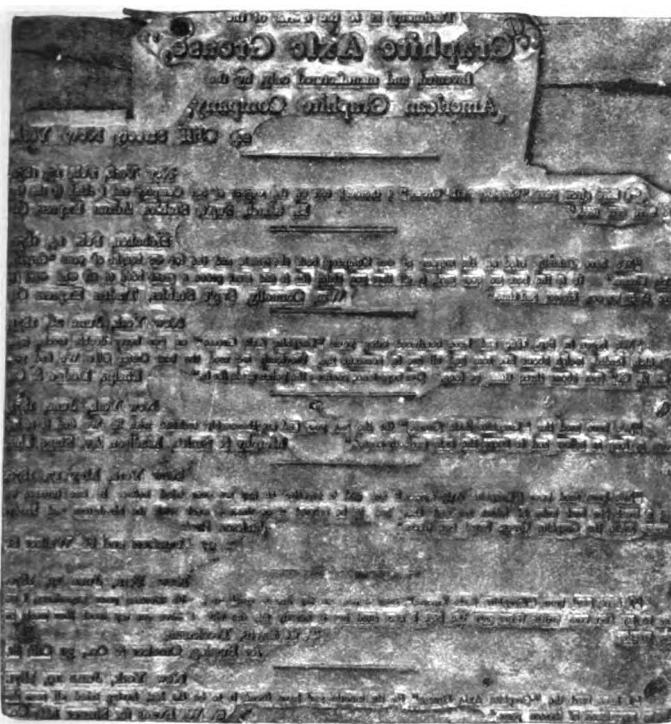
We shall not attempt, in these lines, to tell how the United States Government experts have figured the age of these trees, but it has been done in a scientific and accurate manner.

The Giant Forest of Sequoias in the Sequoia National Park has an area of 3,200 acres and contains 50,000 trees, of which 5,000 exceed ten feet in diameter. There are eleven other groves in the Sequoia National Park, ranging from ten to two thousand acres in area and containing from six to three thousand trees, exceeding ten feet in diameter.

Those who desire to read the most fascinating account of "The Secret of the Big Trees," written by Ellsworth Huntington, Yale University, New Haven, Conn., showing the connection between California and ancient Asiatic history nearly a thousand years before Christ, together with a sample of Dixon's "Sequoia" Pencil, may receive same by enclosing twelve cents in postage stamps, requesting "The Secret of The Big Trees" and sample of Dixon's "Sequoia" Pencil.

CHARACTER is tempered by a sense of superiority and dulled by a "show" of it.





#### FORTY YEARS AGO

Recently, during the time some repairs were being made at the New York Office of the Dixon Company, the subject of the above photographic reproduction was recovered from the flooring. It is an electrotype made over forty years ago and despite its warped and cracked condition, its printing surface remains practically unimpaired. Indeed, the condition of this electrotype with its deep printing surface and perfectly shaped letters may be held up as an example to electrotypers of the present day, nearly all of whom too often sacrifice quality for speed.

The text of this electrotype concerns the product known over two score years as G. A. G. or Graphite Axle Grease, but since known the world over as Dixon's Everlasting Graphite Axle Grease. The electrotype, nearly a foot square, was evidently used for printing a dodger or circular and contains testimonials from the Adams Express Company and other well known express companies. Among several others there is a letter from Murphy & Smith of the Madison Avenue Stage Line, which has long since deserted that well known thoroughfare. It is interesting to note that although this electrotype was made over forty years ago, it reproduces letters that make reference to the use of G. A. G., such as: "We began using G. A. G. in September 1860," and: "With fourteen years experience we are free to say that G. A. G. is the best."

This electrotype was made for the American Graphite Company, located at that time at 24 Cliff Street, New York, before its absorption by the Joseph Dixon Crucible Company.

#### CLIPS "GRAPHITE" FOR SCRAP BOOK

"Would it be too much to ask that you send two copies of GRAPHITE instead of one. The last issue (April) was so good that someone in our office clipped everything out of it for a scrap book."—H. J. HULBERT, *Cashier*, The C. Reiss Coal Company, Green Bay, Wis.

#### THE FABLE OF THE TWO SUCCESSES

He was sitting on a fire plug gazing in an indolent manner up the street.

"You seem to have plenty of time on your hands," I said.  
"Waiting for some one?"

"As a matter of fact I have no time at all," he replied grouchily. "Things never go my way. If I did not want to ride in a machine there would be a thousand going this way."

"Want some one to pick you up?" I inquired. "I don't know where you are going, but why don't you walk?"

"Walk!" he almost screamed in his indignation. "I must go faster than a walk."

"Then why don't you run? You look strong enough."

"Well, since you must know, I want to catch that Success fellow, and I can never do it unless a fast machine picks me up."

"O, I see. Where is Success?"

"He's around that corner. Always keeps just ahead of me. If I move on, so does he."

"Why don't you hurry? You might catch him."

"Catch him! Likely. I could never do that."

"No, I don't believe you could," I replied, musingly, as I walked on.

Just around the corner I came across a lithe, athletic looking young fellow attired in the garments of a sprinter.

"Who are you," I ventured to inquire, "and why are you on the street in this costume?"

"I am one of the Success family," he replied cheerily, but with mischief in his glance. "I have been assigned as the one to lead that fellow sitting on the fire plug around the corner a chase. But, dear me, there is no fun in it at all. He is waiting for an automobile to come along and help him catch me. Once in a while he gets up and peeps around where he can see me, but the minute he does so I move on, and he immediately gets discouraged and sits down again. There is one consolation—he will soon be so lazy no one will need to play with him, and then I can get a new assignment with more fun in it."

Just then another young fellow dressed like my companion came running past us, hotly pursued, though at some distance, by an energetic man whose face betokened intense earnestness.

As they hurried along the Success to whom I was talking clapped his hands in glee, and cried:

"Isn't it splendid? O, if I only had a chance like that!"

Around the block went the pursuer and pursued in furious chase. Although the leader in the race maintained his distance he did not appear to be able to increase it. They passed us twice, but, at the third round, the pursuer stopped short as the pursued turned the corner ahead of him. Quickly doubling his tracks, he sprinted back the way he had come.

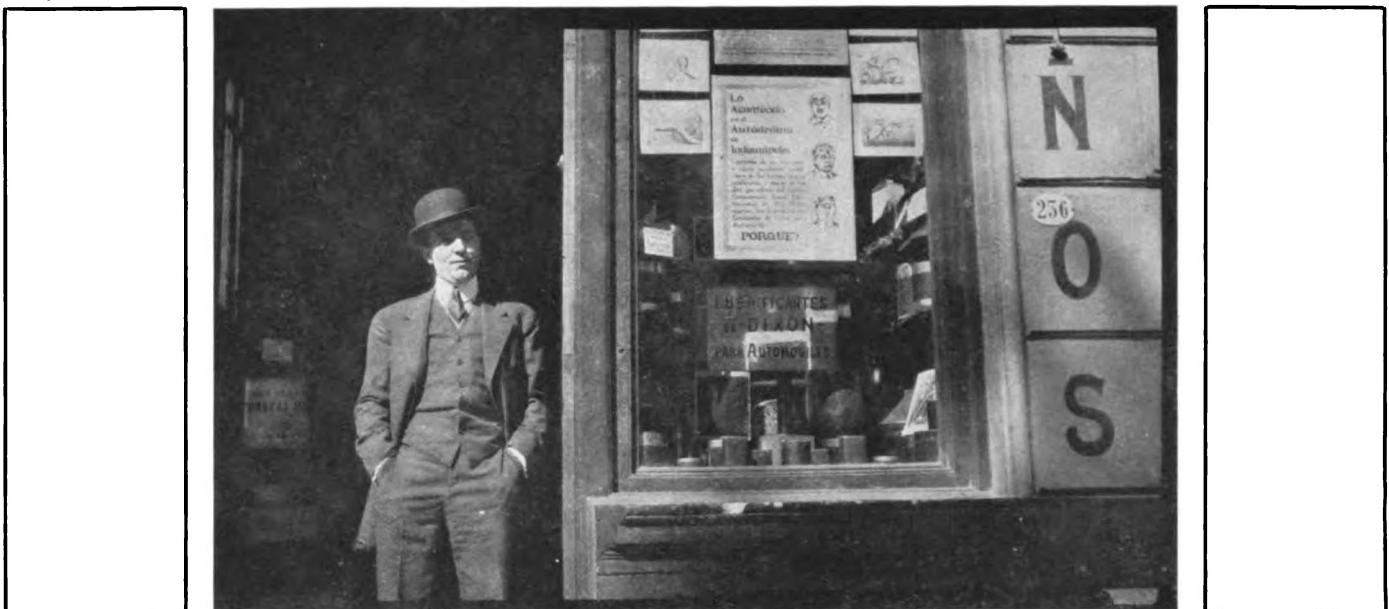
Then my companion shouted:

"He will catch him now. They always do when they go to meet us half way. It is a trick we never have learned to counter."

Sure enough we soon saw them marching together, the best of friends, smiling at each other and looking with contentment at all around them.

My companion was so disgusted that he turned back to the corner where his supposed pursuer was sitting, moved up close to him and made a face at him. Then he slowly walked away without taking the trouble to look back over his shoulder.

The other continued to sit on the fire plug.—*Now and Then.*



### WINDOW DISPLAY OF DAVID HOGG & COMPANY, BUENOS AIRES, S. A.

Engineering supplies distributed through David Hogg & Company of Buenos Aires, Argentine, S. A., are sure to be of the best quality. David Hogg & Company handle no other kind. As evidence that this policy has proved to be a successful one the fact is cited that David Hogg & Company have been in business for a quarter of a century.

In our reproduction of the David Hogg & Company window display there may be seen standing in the doorway, as if in proud contemplation of the display he has just finished, Mr. Alfredo J. Eichler, the representative of the Dixon Company in South America for all products other than Dixon's Pencils.

The display itself, though intended chiefly to be of Dixon's Graphite Automobile Lubricants, also contains substantial representation in the form of cans of Dixon's Silica-Graphite Paint, Dixon's Solid Belt Dressing, Dixon's Traction Belt Dressing, Dixon's Graphite Cup Greases, Dixon's Graphite Waterproof Grease, Dixon's Crucibles and Dixon's Flake Graphite.

The sign in the back of the window is of glass, upon which in red letters is reproduced the Spanish equivalent for "Dixon's Graphite Automobile Lubricants." A light at the back of this sign causes the lettering to show up very clearly and to attract the attention of many passers-by who might not otherwise stop to look. Mr. Eichler has, as will be noted, also included in this display a Spanish version of the poster "What Happened at Indianapolis," and features of several well known automobile racing drivers together with what the latter have had to say about Dixon's Graphite Automobile Lubricants.

Other equally well pleasing window displays are expected to follow, not only at the store of David Hogg & Company, but in many other places throughout South America, and Mr. Eichler, whose address is 666 Calle Cangallo, Buenos Aires, S. A., is providing himself with attractive and interesting matter for future displays.

"NEVER trust a husband too far or a bachelor too near," is a hint that comes to us from *The Times of Cuba*.

### HELLO AND HOWDYDO

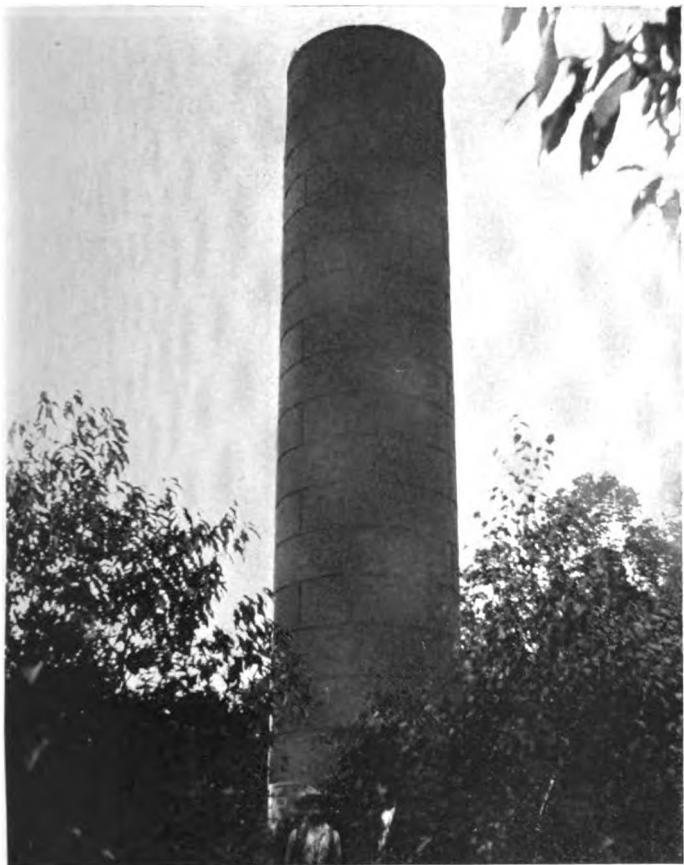
"When you see a man in woe  
Walk straight up and say, 'Hello.'  
Say 'Hello' and 'Howdydo';  
Slap the fellow on the back—  
Bring your hand down with a whack.  
Waltz right up (don't go slow),  
Shake his hand and say, 'Hello.'

"Is he clothed in rags? Ah, no!  
Walk straight up and say, 'Hello.'  
Rags are but a cotton roll  
Wrapping a human soul,  
And the soul is worth a true  
Hale and hearty 'Howdydo.'  
Don't wait for the crowd to go,  
Walk straight up and say, 'Hello!'

"When big vessels meet, they say,  
They salute and sail away;  
Just the same as you and me,  
Lonely ships upon the sea.  
Each one sailing his own jog  
To the land beyond the fog.  
Let your speaking trumpet blow,  
Lift you horn and say, 'Hello!'

"Say 'Hello' and 'Howdydo,'  
Other folks are as good as you.  
When you leave this house of clay,  
Wandering in the far away,  
When you travel in that strange  
Country far beyond the range,  
Then the souls you've cheered will know  
Who you be, and say, 'Hello'!"

ONE OF THE "things the motorist wants to know," says A. D. Hard in "Helpful Hints" of *Motor*, is that "wherever two surfaces rub together making a squeaking noise, graphite grease makes the best remedy. Oil in such places is but a temporary makeshift."



#### WATER TANK, OYSTER BAY, NEW YORK

Oyster Bay is world famous. The above illustration shows the water tank of the Nassau Water Company at that interesting place. The tank was painted four years ago by Mr. W. A. Lewis of Deer Park, L. I., with Dixon's Silica-Graphite Paint, and today the tank is in perfect condition.

That's the kind of service Dixon's Paint is giving wherever used; hence, its steadily increased popularity during the last fifty years. It is the oldest, best and most popular—the *longest service* metal protector and therefore the most economical.

Whatever your politics, at least take this paint example from Oyster Bay and "go and do likewise."

#### "USEFUL SPANISH WORDS AND PHRASES"

An appreciative friend, manager of the foreign department of one of the largest concerns in the country, says:

"This is certainly one of the best little pieces of advertising literature that I have ever seen and I do not wonder that it is proving of great value to the Dixon Company.

"There is no doubt in my mind, either as to its value to a beginner who had the temerity to enter some of the South American countries without taking the precaution to provide himself with some knowledge of Spanish. I have had some personal experience in that respect, myself; and I can plainly see that, if at that time I had had with me one of your little books, life would have been much more comfortable and I would have gotten a better preliminary impression of Spanish-Americans,—particularly 'cocheros' and 'mazos'."

A copy of Dixon's "Useful Spanish Words and Phrases" will be sent free of charge to any one interested in Spanish-America or in the Spanish language.

#### DISPLAY OF DIXON PENCILS BY THE EDUCATIONAL EQUIPMENT COMPANY

When the schoolma'am, the schoolmaster, principal, superintendent, director, trustee, or member of the board of education visits New York it is only fair to presume that he or she, at some time or another, may be found in the new twelve story structure located at Fifth Avenue and Thirteenth Street.

Here is educational headquarters. Everything for the school, from pens and pencils to building plans and positions may be viewed and interviewed. In the matter of pencils, if you will refer to the photographic reproduction on the cover page, an excellent display may be seen of Dixon's Pencils. This display is a part of the permanent educational exhibit of the Educational Equipment Company, an enterprise which grew from a mere display of school equipment to an organization which serves the entire shopping and buying interests of schools.

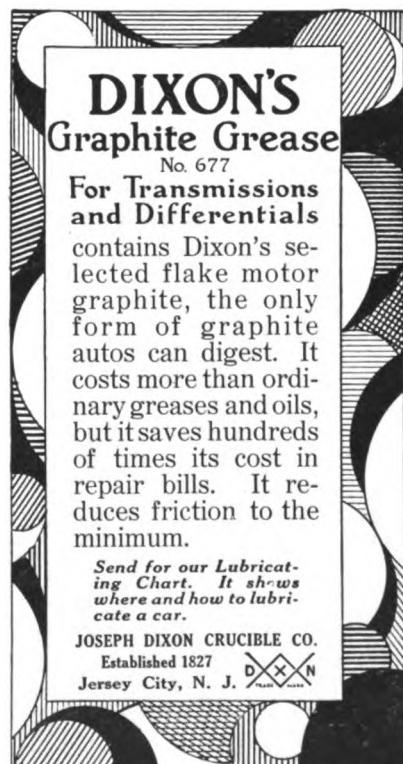
In a booklet published by the Educational Equipment Company, a cordial invitation is extended to all teachers and others to visit them, and the Dixon Company also extends an invitation to inspect its display of the many hundreds of Dixon's Pencils, Erasers, etc.

#### FIRST PRINTING PRESS

"May I print a kiss upon your lips?" I said,  
And she nodded her sweet permission;  
So we went to press, and I rather guess  
We printed a full edition.

"But one edition is hardly enough,"  
She said with a charming pout;  
So again in the press the form was placed,  
And we got several "extras" out.

—Atlanta Saturday Night.



# The Value of the “Know How”

Making good crucibles is like using them—a job for the man who knows how.

If you had commenced in 1827 to use crucibles in your Foundry—  
If you had kept a record of your experience with them, a careful account of your results—successes as well as failures—

If you had spent close to a century learning all you could learn about handling crucibles—

Wouldn’t you be placing a value on your “know how?”

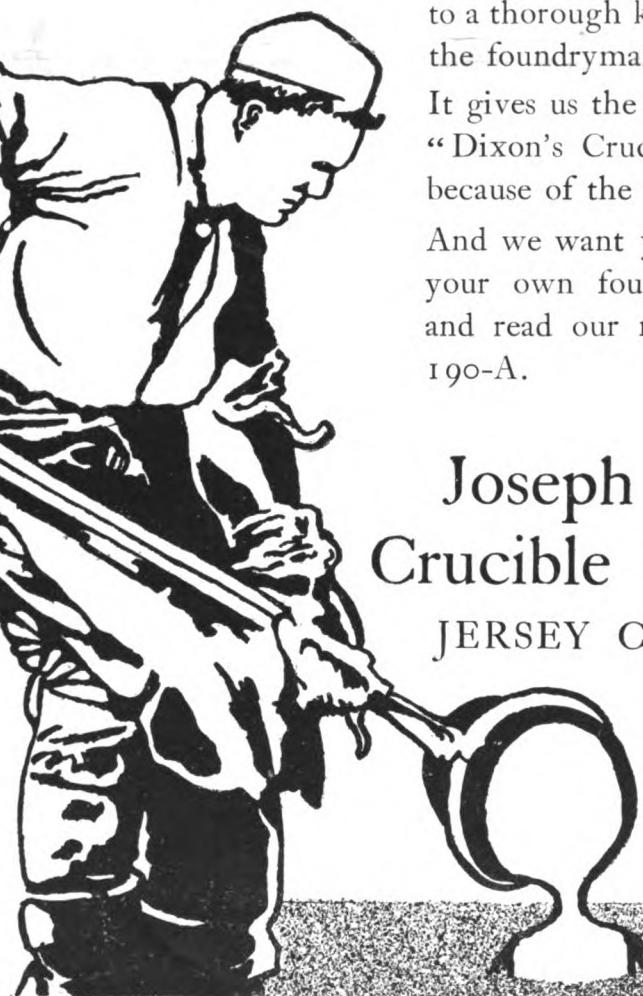
The Joseph Dixon Crucible Company has been learning how to make crucibles for eighty-eight years.

Our “know how” goes back to the raw material. It goes forward to a thorough knowledge of what the foundryman requires.

It gives us the confidence to say,  
“Dixon’s Crucibles are the best because of the ‘know how.’”

And we want you to prove it in your own foundry. Write for and read our new booklet, No. 190-A.

Joseph Dixon  
Crucible Company  
JERSEY CITY, N. J.



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JUN 1 4 1915

# Graphite

Vol. XVII  
No. 6

June  
1915

"the  
pour"

Reproduced by courtesy Damascus Bronze Co. (See page 3885.)

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ESTABLISHED 1837



INCORPORATED 1868



## JOSEPH DIXON CRUCIBLE CO. JERSEY CITY, N. J., U. S. A.

**Miners, Importers and Manufacturers of Graphite,  
Plumbago, Black Lead.**

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*Vice President*—GEORGE E. LONG  
*Secretary*—HARRY DAILEY  
*Treasurer*—J. H. SCHERMERHORN  
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### OFFICES AND SALESROOMS

NEW YORK SALESROOM, 68 Reade Street

PHILADELPHIA SALESROOM, 1020 Arch Street

SAN FRANCISCO SALESROOM, 155 Second Street

CHICAGO BRANCH, 1323 to 1327 Monadnock Block

BOSTON OFFICE, 347 John Hancock Building

PITTSBURGH OFFICE, Wabash Terminal Building

ST. LOUIS OFFICE, 501 Victoria Building

BALTIMORE OFFICE, 616 Professional Building

BUFFALO OFFICE, 72 Erie County Savings Bank Building

ATLANTA OFFICE, Fourth National Bank Building

### EUROPEAN AGENTS

Graphite Products, Ltd., 218-220 Queen's Road, Battersea, London

### SOUTH AMERICAN AGENT

For all Products Except Dixon's American Graphite Pencils  
 Alfredo J. Eichler, 666 Calle Cangallo, Buenos Aires, Argentine

### CUBAN AGENTS

For all Products Except Dixon's American Graphite Pencils  
 William Croft, Room 424 Lonja del Comercio, Havana

### LATIN AMERICAN AGENTS

For Dixon's American Graphite Pencils, Etc.

National Paper and Type Company, 31-35 Burling Slip, New York  
 With Branch Agencies in Mexico, Cuba, Peru, Argentine,  
 Uruguay, Venezuela, Porto Rico and Colombia

## AN EXPENSIVE SHIPPING BILL

In an article published in the *Exporters' Review* and written by Mr. Welding Ring, senior partner of the Australian export house of Mailler & Quereau, New York, the handicaps are pointed out that American shipping will be under when the "Seaman's Bill" becomes effective as to United States vessels on November 4, 1915.

From the point of view of a ship owner, Mr. Ring says the bill is a very unwise one and will work to the disadvantage of both owners and seamen. The bill becomes effective as to foreign tonnage on March 4, 1916.

There are three classes of vessels differently affected by the new law.

According to Mr. Ring there is so much uncertainty about the new bill that only time itself can determine what the effect will be.

According to Mr. Ring the originators of the bill have evidently lost sight of the fact that in adding to the cost of operating American tonnage, they are killing the "goose that lays the golden egg" by placing further obstacles in the way of an increase in our merchant marine, and making it less desirable to sail under our flag. Conditions were difficult enough under the previous navigation laws, and to add to the difficulties by the present law will not make steamship owning attractive for American investors. Under the emergency bill passed last year, permitting the president to suspend for a time some of the operations of the navigation law, quite a large number of steamers were transferred to the American flag, but already some of the owners who made this transfer are regretting their action and contemplating a retransfer to some other flag. Their intention to do so will no doubt be hastened and increased when the new shipping law goes into effect, and it will no doubt be a great deterrent against further transfers to the United States flag. From the point of view of a ship owner the bill was a very unwise one and will work to the disadvantage of both owners and seamen.

### A STATIONER

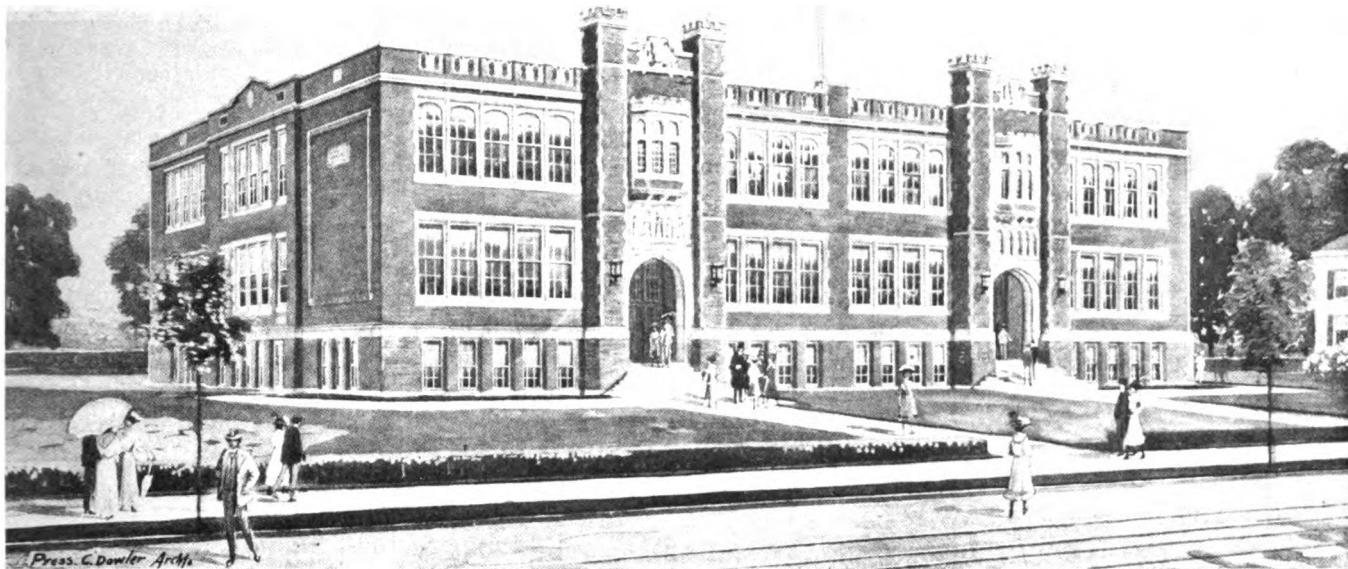
#### He Likes to Sell Dixon's Pencils

The other day one of our salesmen was given an exceptionally fine order for Dixon's Pencils, including liberal quantities of "Anglo-Saxon," "American Graphite" and "Eldorado," by the leading stationer in one of the Pennsylvania cities.

After the transaction was closed the customer stated to our salesman, "That's a pretty nice order, isn't it?" Our salesman replied, "Yes, it's a dandy, and I appreciate it very highly." The customer then remarked, "Well, I like to sell Dixon's Pencils, and in fact, prefer to sell them against any other brand for several reasons. In the first place, they are a fine quality and I hardly ever get a complaint of any kind. In the second place, they keep moving steadily off my shelves, and in the third place, I like the company and the way they co-operate with me."

It has always been our conviction that a permanent business must be based upon a satisfactory sale, and that a sale to be satisfactory must involve profit and satisfaction to all parties, including the consumer, the dealer and the manufacturer.

Experiences like the one above cited are encouraging to us in that they prove that our intentions and efforts are not going astray.



**CRAFTON HIGH SCHOOL BUILDING,  
CRAFTON, PA.**

We illustrate above the Crafton High School Building, Crafton, Pa. This structure was erected at a cost of \$125,000.

The plans and specifications were prepared by Press C. Dowler, architect; the Garber-Eder Company were the steel erectors; the Pittsburgh Bridge and Iron Company, steel contractors, and the general contractors the Schutz, Schreiner & Clyde Company.

The entire tonnage of steel involved in this building was painted with a shop and field coat of Dixon's Silica-Graphite Paint.

**DIXON'S ANGLO-SAXON PENCILS**

The Dixon Company manufactures a line of Anglo-Saxon Pencils. They are made in round and hexagon shapes, and with and without tips and rubbers. As a commercial pencil and as a pencil for general use, these Anglo-Saxon Pencils have found great favor and are growing in popularity.

We have been asked to tell the meaning of Anglo-Saxon. Senator Tillman once said that he could be understood by the common people as he used plain Anglo-Saxon words, and perhaps Billy Sunday would say the same thing, for we all know that the words of Billy Sunday are short and forceful and never misunderstood. Billy Sunday makes use of good old-time Anglo-Saxon words well known to the common people, but very largely avoided in polite society.

For the information of our readers we will attempt to tell who were the Angles and who were the Saxons.

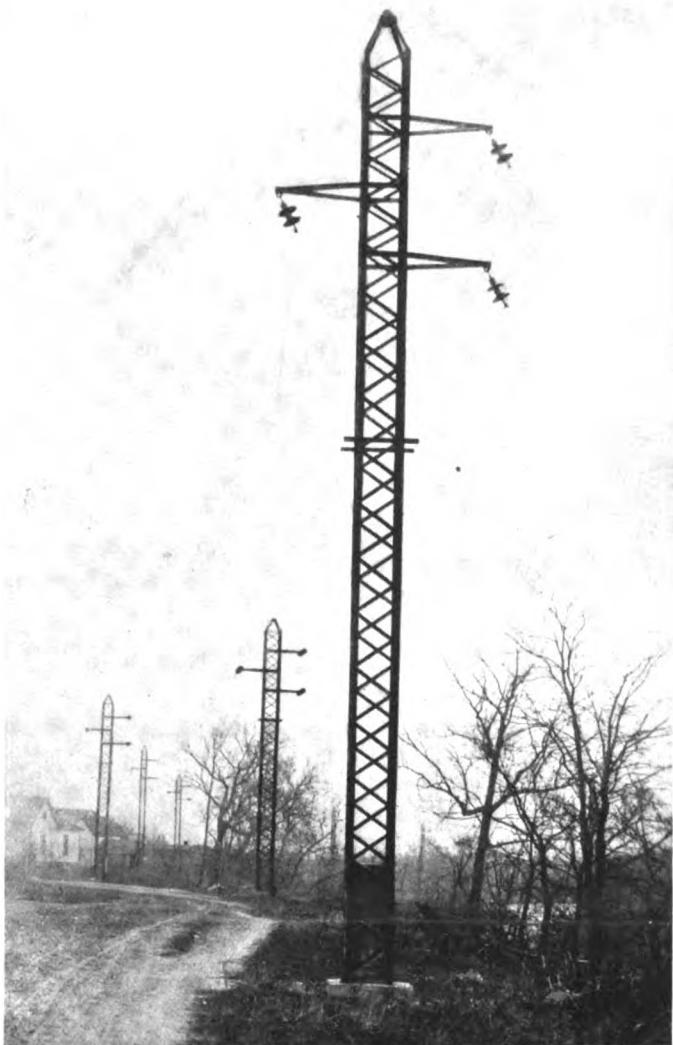
The Angles and Saxons were the chief tribes among the three principal Teutonic conquerors of Britain; the Jutes were the third. They were Low Dutch tribes from the borderlands of Germany and Scandinavia, the lands at the mouth of the Elbe and the Weser. Their language was an independent branch of the Teutonic family. The Saxons were the first invaders, but the Angles settled more land. As their settlement became

older and they themselves permanent residents of the island they called themselves "English," but their Celtic neighbors called them Saxons. Their language was, of course, established in England at the time of the Norman Conquest in 1066, when Norman-French words and phrases of Latin origin became fused with the language of the people. The short and homely words of Anglo-Saxon origin remain, of course, as an integral and basic part of the English language, simpler, better known, less pretentious, and preferable in conversation to the words of Latin derivation. This is the reason for such remarks as that quoted from Senator Tillman.

**THE RETORT OBLIQUE**

Readers of GRAPHITE are thoroughly familiar with Shakespeare's "Retort Courteous," but a New York paper now gives us an explanation of "The Retort Oblique" which runs as follows:

"Seldom does a publicly conducted quarrel move so rapidly from the simple to the complex retort as has been the case with the one now taking place between the Riggs National Bank of Washington, on one hand, and the Secretary of the Treasury and Controller of the Currency, on the other hand. It began with the retort equivalent, the first and simplest form of the device. That is merely to say, 'You're another,' and puts the onus of further initiative upon your adversary. The next is the retort progressive, which is to say, 'You're another twice.' That leads to the retort competitive, which runs wildly through the power of mental arithmetic up to the millionth time that you are another, and then to the retort accumulative, which is to say, 'You're all you can say I am and thirty billion times more besides.' Lastly is the retort oblique. That is something slanting, something declining from the vertical or horizontal, neither parallel nor at right angles, with an axis not perpendicular to the plane of the base. It has unequal sides; it does not go straight to the point, it is roundabout and cross-eyed."



**TRANSMISSION POLES, MUNCIE ELECTRIC  
LIGHT COMPANY, MUNCIE, IND.**

This photograph shows a portion of a line of about thirty Coombs Type "C" Poles, in the transmission line of the Muncie Electric Light Company, in Muncie, Indiana, which transmission poles are *painted with Dixon's Silica-Graphite Paint*.

The poles in this line vary in length from forty-two feet to sixty-two feet above the foundations. The foundations were built in advance, with anchorage angles set in place, and afterward bolted to the shop-riveted poles.

The line consists of a quarter inch overhead steel ground wire, and one three-phase circuit of No. 1 stranded copper conductors, insulated for 33,000 volts, but arranged for a possible increase of voltage. In addition, this line supports in certain sections, a number of 2300 volt distribution wires, and in addition carries the lighting company's telephone circuit.

Owing to the extremely difficult location, the actual span lengths vary considerably, the average being perhaps 350 feet. As will be noted in the photograph, some of these poles are set along the curb line of a street, and cause no undue interference with the highway or the adjoining property owners. In fact, it may be said that long span steel construction, using poles of this nature, is a natural development for transmission lines entering towns and cities.

The structures were designed and built by R. D. Coombs & Company, New York, Mr. A. T. Bull and Mr. T. F. English being respectively engineer and manager of the lighting company.

#### A SURPRISE IN DIETING

The crew of the German cruiser Kronprinz Wilhelm, as a result of their complete collapse under a diet of fresh beef, boiled, mashed and fried potatoes; canned vegetables, white bread, butter, sweet biscuits, coffee, condensed milk and sugar, have at least demonstrated to the American people the alarming inadequacy of the most typical American foods.

For the first time in the history of the world we now have a real poison squad. There never was a poison squad like it. The five hundred men who have been specially prepared aboard the Kronprinz Wilhelm will serve as a base for future observation.

To be crippled as the Kaiser's sailors have been crippled is a truth that should not be ignored.

Out of the crew of 500 the 110 who have reached the limit of toleration are perhaps slightly more fortunate than the other 390, who still stand a little this side of the breaking point.

Prior to the sudden prostration of these victims of demineralized food, none of them had any serious suspicion that he was about to be stricken, but those who, through pain and exhaustion, now fully realize the gravity of their condition, are prepared to submit to heroic treatment, whereas the others, who are still able to walk the deck, possess no adequate conception of the gravity of this slow-moving, insidious attack upon their tissues.

The alkaline salts, necessary to prevent acidosis in a diet of meat, are found by carnivorous animals in the blood and bones of their victims. Lions, tigers, wolves, etc., devour the bones and consume the blood as well as the flesh of their prey. Meat as dressed for human consumption, stripped of its bone and drained of its blood, does not furnish these base-forming elements.

In the ordinary meat containing diet, man offsets to some extent the acidosis that follows such diet by his fondness for milk, egg yolks, nuts, celery, lettuce, parsnips, beets, cauliflower, onions, spinach, string beans, asparagus, apples, oranges, berries and other fruits.

It has been demonstrated that nothing promotes the elimination of calcium more than the use of decalcified foods, such as white bread, potatoes and meat.

The importance of calcium in the processes of nutrition is no longer subject to debate, and the fact that the diet of the crew of the Kronprinz Wilhelm had been commercially robbed of its calcium, is a notorious classic that no longer requires demonstration, even though Americans perish in ignoring its meaning to them and to their children.

#### BRUSH CLAIMS ASIDE!

- Experts have decided by the most exhaustive and trying tests, covering a period of fifty years, that the most satisfactory results in the protection of metal surfaces is found in Dixon's Silica-Graphite Paint, and that is the reason why the railroads and other large corporations who have made a study of the economy of paints and painting, have adopted Dixon's Silica-Graphite Paint as their standard for maintenance work.

### THE ODOR OF WOOD

The University of Wisconsin laboratory experts tell interesting facts about benefits of cedar, sassafras, sandalwood, etc.

Some woods emit quite a strong odor when green or when fresh surfaces of the dry wood are exposed. Green oak has a soured odor, cottonwood has a disagreeable odor, cypress has a rancid odor noticeable especially when sawed.

A wood of South Africa closely related to our hackberry has such an extremely bad odor that the name "stink wood" has been applied to it.

Generally, the odor of woods is not disagreeable. In fact, the value of some foreign woods lies chiefly in their pleasant odor. This is true especially of the Indian sandalwood, West Indian satinwood and Spanish cedar.

Among our native woods red cedar, also called juniper and pencil cedar, is a good example of the practical use made of the odor of wood.

Cedar wood is used in the manufacture of cedar chests. The odor is agreeable to man but not to moths and other insects which keep away from it whenever possible. However, if clothing infected with moths is put into a cedar chest, the moths will continue their work of destruction.

Florida cedar and other pencil wood cedar from the South has a very agreeable odor, which is very noticeable whenever any one approaches a pencil factory. It is noticeable even when the wood is dried and made into a lead pencil, as any one can determine simply by smelling a newly sharpened lead pencil.

The wood of sassafras has a spicy odor, and in certain sections of the country this wood is preferred for bedsteads, for it is said that the odor will drive away certain insects which otherwise would disturb peaceful slumber.

### EIGHTY-EIGHT

Eighty-eight years ago Joseph Dixon, scientist, inventor, chemist, machinist, sociologist, humanitarian, born at Marblehead, Mass., in the year 1799, founded the business now known as the Joseph Dixon Crucible Company.

Joseph Dixon was a man whose work has profoundly influenced civilization. There is not a civilized point on the entire world that does not make use of a plumbago crucible which was one of the inventions of Joseph Dixon.

During the eighty-eight years of existence of the Dixon business, graphite product after graphite product has been added, and now the Dixon Company stands as the only concern of its kind in the world.

There are other pencil manufacturers, other crucible manufacturers, other manufacturers of some graphite products, but there is no concern that manufactures all of the various graphite products under its own roofs; including mining of the graphite, the importation of different graphites from various parts of the world, as well as the ownership of thousands of acres of cedar trees, and the cutting and milling of cedar wood to be used in the manufacture of lead pencils.

"The graphite which we have been using in our boilers at Winona has given entire satisfaction and we can heartily recommend it to owners of steam plants."—Winona Malting Company, FRED F. BULLEN, Pres.

### LESS FRICTION, LESS WEAR

It is well known that the sand blast which will cut away hard glass has no effect on the human hand. So it is that the wind-driven dust, cinders, etc., have far less effect on a coating of Dixon's Silica-Graphite Paint than they have on a hard glass surface of an ordinary pigment paint.

There is no solid material so smooth, unctuous and slippery in every way as flake graphite.

When flake graphite, united with flake silica, is ground with best boiled linseed oil, to which a proper amount of the best dryer is added, it forms a paint, a proper coating of which will give longer service and greater economy than any known paint.

The peculiar advantage of Dixon's Silica-Graphite Paint lies in the fact that the silica and graphite is not a mechanical mixture. The flake silica is mined with the graphite, and the pigment when viewed under a microscope will show very largely that the flakes of silica are attached to the flakes of graphite, thus forming a thoroughly homogeneous paint pigment.

The silica in the graphite paint acts the same as copper in a gold chain. It furnishes endurance and wearing qualities which are never found in a pure gold chain or in a pure graphite paint.

### NO GAMBLE

677 is the winning number at automobile races. To the Speed King it guarantees freedom from lubricating troubles. It is the trade number of Dixon's Transmission and Differential Grease. The Speed King knows—get his number!

TELL A MAN that there are 270,169,325,484 stars and he will believe you. But if a sign says "Fresh Paint," he has to make a personal investigation.—*Cincinnati Enquirer*.

Nothing curious about this. Paint signs are not always truthful and we favor more investigation of the labels on some graphite paints that are sold in competition with Dixon's Silica-Graphite Paint.

### "THE POUR"

Our cover design is from a photograph of "The Pour," loaned to GRAPHITE through the courtesy of Mr. William K. Frank, vice president of the Damascus Bronze Company, manufacturers of bearings and copper alloys. The original from which the photograph was taken is a bronze statue at the offices of the company in Pittsburgh, Pa. If we were to judge only from the expression upon the melter's bronzed face, free as it is from anxiety lest the crucible should break, we should hazard a guess that a Dixon Crucible was being used. "The Pour," however, was modeled by H. Mueller and imported from France, and though efforts have been made to trace it further, its origin is more or less obscure.

### PRESIDENT ENJOYS "GRAPHITE"

Mr. W. W. Foote, president of Foote & Davies Co., manufacturing stationers of Atlanta, Ga., writes for a copy of the Dixon booklet, "Useful Spanish Words and Phrases" and incidentally says: "We enjoy GRAPHITE and look forward with pleasure to its receipt."

**A NEW GRAPE FRUIT PRODUCT**

We read in *Commerce Reports* that "the fruit juice specialists of the United States Department of Agriculture have recently developed a method by which the juice pressed from Concord and Ives grapes can be concentrated into a new form of grape sirup suitable for use in soft drinks and as an adjunct in cookery. The discovery of the process followed experiments in concentrating cider to one-fifth of its volume. The new method consists in freezing juice pressed from grapes into solid ice, cracking this ice into pieces the size of a walnut and whirling it in a centrifugal machine, such as is used in separating the molasses from the sugar in sugar making. The rapid whirling of the grape juice ice in the centrifugal machine causes the sugar or sirupy portion of the grape juice to separate from the crystallized water and to fly out into the receiving chamber of the centrifugal. By this method the grape juice is quickly reduced by the elimination of water to one-fourth its volume, so that the sirupy content of a gallon of grape juice will make a quart of concentrated grape sirup."

The article from which the above is quoted is of considerable length and quite interesting. By its concentrated form, it makes it possible for us to carry in our pocket flask a sufficient quantity of grape dope to last us for sometime and to meet our several requirements in the grape juice line.

**WHY THE SILICA?**

A twenty-four carat pure gold chain will not prove a durable chain. Neither will a pure all-graphite paint prove a durable protective covering.

The copper alloy in a fourteen or sixteen carat chain insures durability.

Graphite, as a pigment, is unrivaled for its unctuous quality, that is, ability to cover surfaces smoothly and without wear to brushes.

The silica in Dixon's Silica-Graphite Paint is of flake formation and of practically the same specific gravity as the graphite. It is a natural alloy and the best known.

The silica-graphite in Dixon's Silica-Graphite Paint may be properly termed Nature's mixture, as the silica and graphite are mined together, and in the pigment a large portion of the silica is found attached to the graphite flakes.

A mechanical mixture of ordinary silica and graphite cannot be made to take the place of Nature's product.

If a graphite paint is desired for long service work and for durability under trying conditions, no so-called pure graphite paint should be used, as the coating formed will not resist wear for such work.

Only Dixon's Silica-Graphite Paint should be specified and used.

**I** seek the acquaintance of purchasing agents and draughtsmen; I serve their best interests. My name and reputation is gained by the service I render. I cannot and do not fail to give satisfaction. I sharpen easily and write smoothly. I am

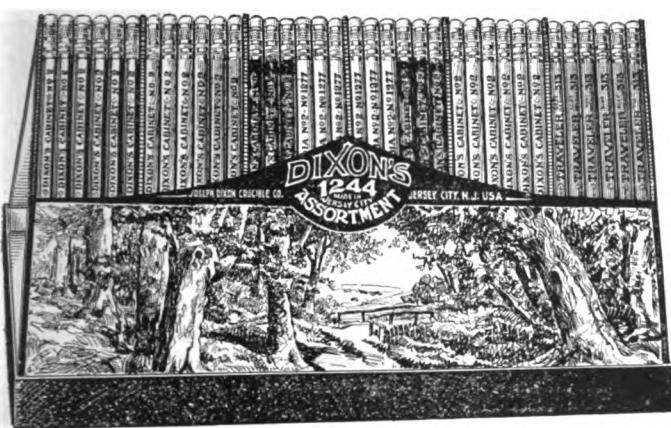


I am of hexagon shape, yellow finish and stamped in gold. I am graded in the fourteen perfect degrees of hardness that meet the pencil requirements of all draughtsmen. I offer to send myself to any purchasing agent or draughtsman upon request. I need only the summons to prove myself worthy. Write, asking for sample No. 190-J and I will soon be with you. I am made in Jersey City, New Jersey, by the

**JOSEPH DIXON CRUCIBLE COMPANY**

ESTABLISHED 1827

**"THE SECRET OF THE HIGH COST  
OF LIVING"**



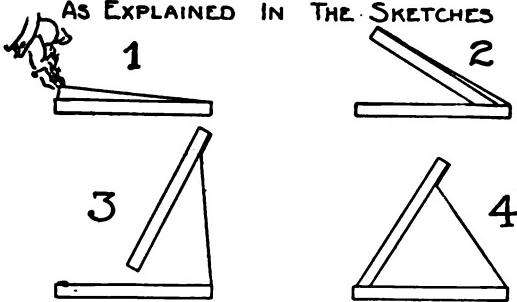
**DIXON PENCIL ASSORTMENT No. 1244**

It is not an easy task for even an artist to illustrate in one color a display of pencils such as Dixon's No. 1244 Pencil Assortment. The forest scene in this black and white reproduction is, upon the original assortment, resplendent in natural autumnal colors and is but one of the several beautiful reproductions used in making up the display boxes. The contents of Dixon's No. 1244 Pencil Assortment represents a careful selection of six dozen popular Dixon Pencils. In style and finish these pencils form, with the display case, a harmonious color arrangement; in grade the pencils are of a uniformly smooth No. 2 lead and for general writing purposes meet all requirements, while in name the following list of the contents of Dixon's No. 1244 Pencil Assortment, furnishes for those acquainted with relative pencil values a most satisfactory reference.

1 Dozen Dixon's Cabinet No. 747, Hexagon, Maroon Finish  
 1 Dozen Dixon's Cabinet No. 724, Round, Cedar Finish  
 $\frac{1}{2}$  Dozen Dixon's Cabinet No. 436, Round, Red Finish  
 $\frac{1}{2}$  Dozen Dixon's Cabinet No. 436, Round, Blue Finish  
 1 Dozen Dixon's Cabinet No. 744, Round, Tortoise Finish  
 1 Dozen Dixon's Traveler No. 313, Round, Maroon Finish  
 1 Dozen Dixon's Sequoia No. 1277, Round, Yellow Finish

The construction of this assortment box is as strong as it is simple and though packed flat it is easily and at once adjusted. The interior forms an easel support. A glance at the diagram below explains the simple construction of the box.

**DIRECTIONS FOR SETTING UP THIS DISPLAY**  
**LIFT THE BOX OUT OF THE COVER AND DRAW IT FORWARD**  
**AS EXPLAINED IN THE SKETCHES**



**NOT ENOUGH "GRAPHITE" TO GO AROUND**

"We now receive GRAPHITE from you every month and all in the office are loud in their praise of it. Someone always wants to take it home and as one copy is not enough to go around, would you kindly put my name on you list."

—E. D. RALSTON, Cable Flax Mills, Schaghticoke, N. Y.

We are now told that the secret of the high cost of living lies in doing away with the sunbonnet. We are told that the sunbonnet is an ingenious freckle preventer, made out of calico, and ties under the chin with a bow knot. It can be bought for ten cents, and made for two cents. When women wear them, the effect is the same as putting blinders on men. A woman's face, when it is imbedded in a sunbonnet is invisible, except at front. Thus the sunbonnet makes all women alike, beautiful from the side, and many a wandering judge has watched a sunbonneted Maud Muller raking hay in a sunbonnet and has loved her madly until she turned his way—after which he has gone on without any regard for the speed limit.

The sunbonnet is worn by women who are not advertising their good looks. When a woman puts on a sunbonnet it is a sign that she is about to become extremely useful. The sunbonnet is the badge of feminine industry. With the aid of the sunbonnet women have churned most of the butter of the country and have weeded thousands of acres of garden and have hung out the clothes of a soiled and careless populace.

In a section where the sunbonnet predominates, there are very few facilities for dancing the tango, but on the other hand, the servant problem doesn't bother anyone, and crops are exceptionally good.

A great many scientists are messing up their brains in an effort to discover the secret of the high cost of living. If they were to turn their attention as to what has become of the sunbonnet and ponder over its rise and decline, they might get many useful suggestions.

When women get ten cents worth of sunbonnet in the spring and do \$500 worth of work under it in the summer, there is no cost of living problem.

But when she hangs the sunbonnet on a hook and crowns herself with a \$43.00 hat held on by an \$18.00 hat pin and sails out to tea each afternoon, while the cutworms feast on the cabbage and the hired girl leaves the refrigerator door open, a change comes over the land.

Let congress restore the sunbonnet by law and all will yet be well, thus says George Fitch.

**THE OLD, OLD STORY**

It is curious what strange things happen in the course of the life time of a man or of a company. The Joseph Dixon Crucible Company started business through its founder, Joseph Dixon, in 1827, and a year after, in 1828, the school board of Lancaster, Ohio, according to the *Journal of Education*, refused to permit the schoolhouse to be used for the discussion of the question as to whether railroads were practical or not, and the matter was recently called to mind by an old document that reads in part as follows:

"You are welcome to use the schoolhouse to debate all proper questions in, but such things as railroads and telegraphs are impossibilities and rank infidelity. There is nothing in the word of God about them. If God had designed that his intelligent creatures should travel at the frightful speed of fifteen miles an hour, by steam, he would have clearly foretold through his holy prophets. It is a device of Satan to lead immortal souls down to hell."

# GRAPHITIZED

A Column of Paragraphites and Dixonized Happenings

Here is, says A. D. Hard in the May issue of *Motor*, one of the things the motorist wants to know. "When two metal surfaces, no matter where they may be located in the mechanism, rub together and produce a squeaking sound, graphite grease is the indicated cure." We knew it, did you?

I find that graphite and a good mechanical tube cleaner go together. The graphite will soften and loosen the scale and make it easier for the mechanical cleaner to bring it down in either a water-tube or fire-tube boiler. If a boiler is badly scaled it is slow and hard work to get the scale off even after the graphite has loosened it, but the cleaner will break it up and quicken the process of removal.—A. A. BLANCHARD in *Power*.

It is easier to sell a Dixon's American Graphite Eldorado Pencil than to explain why another is just as good.

## "EL DORADO"

"El Dorado," or as the Dixon Company prints it on its pencils, "Eldorado," means in Spanish "The Gilded One," and was the name applied to the mythical king of a South American tribe, as well as to a mythical country in which gold and precious stones were found in abundance. The legend induced many explorers to lead expeditions in search of treasure, but nobody found El Dorado. The idea finally grew that El Dorado was unattainable. We believe, however, that in the matter of lead pencils the object has been attained and the treasure in the way of a perfect pencil found.

Dixon's Eldorado Lead Pencils are graded in fourteen degrees of hardness. For quality of lead, for accurate grading, for workmanship and for everything that goes to make up a perfect pencil we believe Dixon's Eldorado stands supreme.

Gold has been taken to symbolize all the material and spiritual advantages for which human beings yearn—quickly acquired wealth, extraordinary power, the well beloved.

At the San Francisco Exposition a beautiful fountain has been designed for one of the courts of the Tower of Jewels. The name of El Dorado has been given to this fountain.

The main portion of the fountain is formed by the architectural reliefs that portray processions of seekers for "The Gilded One," men, women and children, some fighting, some fainting on the march. The end piece, which is about twelve feet high, shows double doors which are almost closed.

Two gigantic figures bar the way to two of the throng that have got that far, and who have fallen upon their knees.

The seekers, represented in the side-reliefs, have had a glimpse of El Dorado, "The Gilded One." Each, in his own way, has seen, and is pursuing, those nearest the door enthusiastically, for they seem to have almost reached their goal. El Dorado, however, has just disappeared through the gateway.

Dixon's Eldorado, "The Gilded One," is attainable by every man, woman and child, and in his fourteen degrees is ready to meet all of their possible lead pencil requirements.

"DIXON'S 'Useful Spanish Words and Phrases' contains useful information and we want to compliment you upon the neat appearance of the booklet."

## PAINT-UP WEEK

Borrowing an idea from the West, an Eastern city has added a paint-up week to its clean-up week.

We are told that those who permit their houses and buildings to go unpainted should be shamed into a sense of duty to the public. We are told that it would be well if every city incorporated this paint-up feature in its clean-up campaigns. Someone has said that the painter is a pioneer of civilization, and there is much truth in the statement. It would not be oppressive if cities were to adopt ordinances requiring that all frame buildings within the city limits should be painted frequently enough to keep them slightly.

Dixon's Silica-Graphite Paint is an ornamental as well as a protective paint. It is made in four colors which are in every way suitable for metal work, electric light and trolley poles, trucks, bridges, iron fences, tanks, and all such work.

## BUSINESS IN THE PHILIPPINES

A writer in the *Bulletin of the American Manufacturers' Export Association* reports that business conditions in Manila are not promising. He reports that the hard times now being experienced in the Philippines is due to only two causes: ship shortage and the vacillating policy of the United States government. Their crops are bigger than ever before in staple goods that all the world needs, but they cannot get ships to move the crops and no one is spending any money where it can be avoided. As matters stand no one knows what is going to happen, and consequently everyone is watchfully waiting. No orders are being placed except for immediate requirements. Every one seems pessimistic, though all agree that there is no good reason why the Philippines should not be highly prosperous if its destinies were properly guided. Manila is very dead in a commercial way and the white men are leaving as fast as they can get out at a minimum of loss.

**DIXON'S**  
**Graphite Grease**  
No. 677  
For Transmissions  
and Differentials  
prevents all metal-to-  
metal contact. The  
selected flake motor  
graphite, used only in  
Dixon's Graphite Lu-  
bricants, can't ball-up  
or pack. The minute  
flakes form over the  
bearing surfaces a vel-  
vety, oily veneer.

*The Dixon Lubricating  
Chart is sent free upon  
request.*

JOSEPH DIXON CRUCIBLE CO.  
Established 1827  
Jersey City, N. J. 

### THOMSON, AUTOMOBILE ENGINEER

The name of Thomson is synonymous with Dixon's Graphite Automobile Lubricants. It is also synonymous with Action, Energy and Restlessness. If you own an automobile, you have probably heard of Thomson; if you do not, he has probably been too busy to get acquainted.

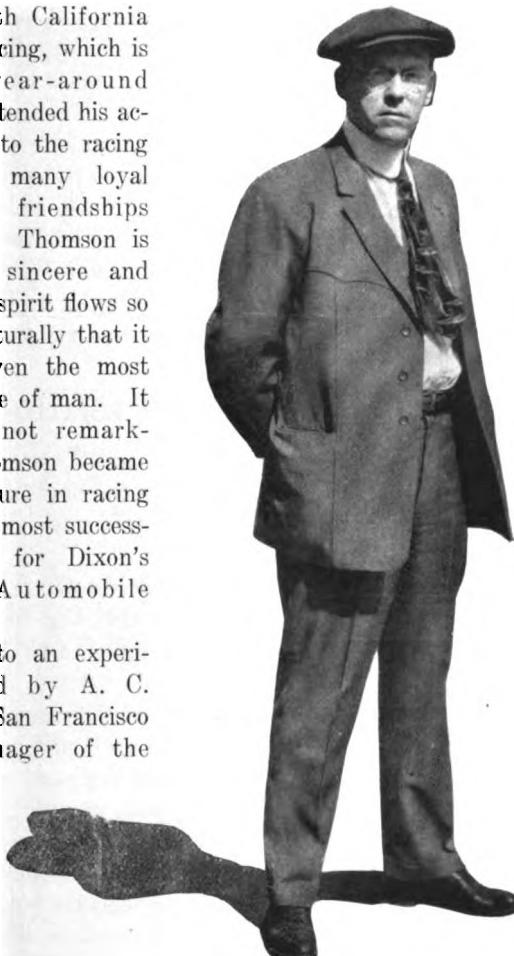
Thomson is a friend of the automobilist. He sympathizes with the owner who does not lubricate his car with Dixon's; he points out the path of greater profits to the dealer, garage and supply men; he hobnobs with members of the S. A. E., and in more than one instance he has convinced the manufacturer that in filling stock cars with Dixon's Graphite Automobile Lubricants the latter is merely cutting for himself an extra slice of good will.

Thomson hails from the East. Soon after he acquired the habit of thinking for himself, however, the lure of the West called him to California. There it was, fifteen years ago, that he became acquainted with the Dixon Company. It was about the time that automobiles began to appear.

Thomson became acquainted with California automobile racing, which is an all-the-year-around sport. He extended his acquaintance to the racing drivers and many loyal and lasting friendships were formed. Thomson is earnest and sincere and his congenial spirit flows so freely and naturally that it thaws out even the most congealed type of man. It is therefore, not remarkable that Thomson became a popular figure in racing circles and a most successful salesman for Dixon's Graphite Automobile Lubricants.

According to an experience related by A. C. Bowles, the San Francisco Branch Manager of the Dixon Company, Thomson must have had, at one time or another,

visions of becoming a speed king. At any rate, this was the impression Mr. Bowles received when one fine morning Thomson took him out in a new racing car upon one of the many boulevards near San Francisco. Speed limits had no fascination for Thomson and the B. M. had a reputation of never being feased before any unusual circumstances. As might be expected, this mixture produced striking results. The racer jumped through a fence, skimmed over a field and plunged into a duck pond from which tiny snakes began to arise in every direction. The vision cured Thomson.



Thomson outgrew California and in coming back East he became sales manager for Dixon's Graphite Automobile Lubricants, at Jersey City, New Jersey.

Thomson is a human dynamo, generating the power that makes live wires of more than a score of salesmen. Apparently he sometimes accomplishes the remarkable feat of being in two places at the same time. Wherever he goes, however, his stay is sufficient to accomplish what he goes for. Thomson is an organization man. Each of his salesmen is expected to accomplish what he (Thomson) would himself accomplish. Thomson is eager and impatient. Red tape and detail annoy him. Action, and plenty of it, is what he thrives upon.

Don't imagine that Thomson always looks like the picture upon this page of GRAPHITE. He looks this way only when a shipment of lubricants is overdue, and our photographer happened to find him in this mood. Thomson smiles and his smile is infectious. It is one of his greatest assets. If you are with him you must smile with him, for you cannot escape the lure of the "great white way."

Between times, Thomson renews his old friendships with racing drivers through whom he is known and welcomed upon every beach, track and speedway from Santa Monica to Brighton and from Galveston to Milwaukee.

A. Gale Thomson or American Graphite Thomson as he is often called, is ever ready to help solve any problem in automobile lubrication and both he and the Dixon Company invite readers of GRAPHITE and their friends to consult with him.

### MATHEMATICS OF GUN FIRING

We have all read in the daily papers about the shots fired into Dunkirk from a large weapon, or weapons, from behind the German lines near Nieuport. The distance between Dunkirk and Nieuport is about twenty-two miles and it is said by American army experts to be the greatest long-range firing known in actual warfare.

The United States has twelve inch coast defense guns which, if elevated forty-five degrees, would carry a shot thirty-one miles, or nine miles further than from Dunkirk to Nieuport.

Elaborate computations have been worked out showing that an American gun of twelve inch calibre, when fired at an angle of forty-five degrees, has a range of 55,000 yards, or over thirty-one miles. The highest point of the trajectory, or line of flight of the projectile, would be 21,000 yards, or nearly twelve miles.

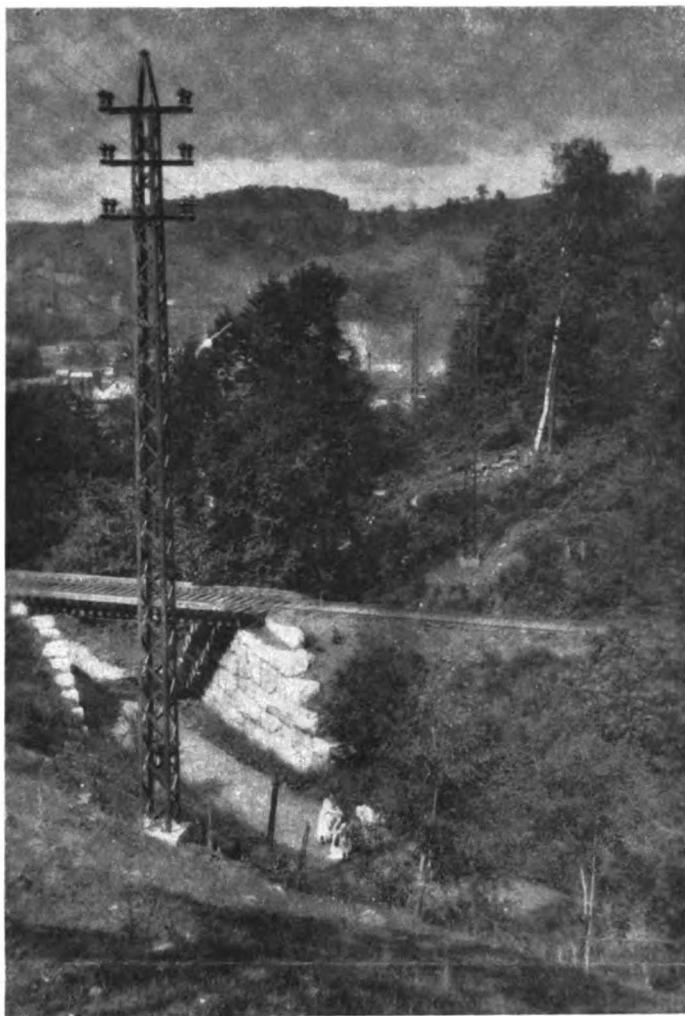
This highest point of flight would be above a point thirty-fifths of the distance from the gun to the target.

Stated differently, the highest point of flight would be 21,000 yards in the air directly over a point 30,000 yards from the gun and 25,000 yards from the target.

It is calculated by the experts that the highest point reached by the shells fired from the German lines, twenty-two miles into Dunkirk, was about seven miles up in the air. They estimate that the time of flight from the German guns was about 107 seconds. The projectiles must have traveled into Dunkirk on an average of about 3.45 miles a second.

For those who like to delve into such matters, the mathematics of gun firing is a very fascinating subject.

"DIXON'S Silica-Graphite" is the top quality sign in Paintville.



#### TRANSMISSION POLES, MONTPELIER AND BARRE LIGHT AND POWER COMPANY

The above photograph shows a railroad crossing in a short line of Coombs Type "A" steel poles leading up to the Barre sub-station of the Montpelier and Barre Light and Power Company, a subsidiary of Chas. H. Tenney & Company, Boston, Mass.

The span across the railroad is about 120 feet long, and the poles are about fifty-seven feet long over all and provide a minimum clearance for wires over the railroad track of thirty feet.

The poles are designed to carry an overhead ground (or lightning protection) wire and two three-phase circuits of No. 1 stranded copper power wires, the ultimate future voltage of which will be 33,000 volts.

As shown, the crossing poles are provided with double arms and double porcelain insulators, with metal pins.

These structures were built in conformity with the standard crossing specifications, and therefore represent the latest and highest type of transmission line construction. They are composed of open hearth structural steel, shop riveted, and painted with two coats of Dixon's Silica-Graphite Paint.

These structures, together with the terminal rack at the substation, were designed and built by R. D. Coombs & Company, engineers and contractors, Hudson Terminal, New York, under the direction of Mr. Alex. Macomber, Superintendent of Distribution of the Tenney Company.

#### SHORT-PAID MAIL MATTER

The following notice has lately been issued by the Second Assistant Postmaster General:

"Whenever it is practicable to do so, postmasters shall promptly inform the senders of short-paid articles mailed at their offices, of the amount necessary to fully prepay the postage on such articles and to hold the articles until the senders supply the necessary postage stamps or specifically authorize the dispatch of the articles as short-paid."

Further suggestion has been made that United States consuls and commercial attachés be advised of this notice and instructed to obtain from now on all business envelopes that have gone out short-paid. If such envelopes are returned and distributed by the Post Office Department to the senders, it is thought that the short-paid bugaboo will disappear and one prolific source of criticism of American methods will cease from troubling.

There is a much needed remedy of a situation which has long caused reflection upon many American business houses.

As an example of the way that we Americans have done things, it may be noted that Porto Rico and Jamaica are among the West Indies islands. Jamaica belongs to England, and although it only takes two cents to send a letter to England, it requires five cents to send a letter to Jamaica. Many houses in Jamaica complain that they receive letters bearing only a two cent stamp and, therefore, have to pay penalty postage.

Porto Rico belongs to the United States and the postage required is two cents the same as anywhere in the United States, but many Porto Rican merchants receive envelopes bearing a five cent stamp, showing how American business houses and manufacturers confuse postage between the two islands.

#### BUSINESS AND POLITICS

Mr. George W. Perkins, in a speech before the Southern Commercial Congress, appealed to the South for co-operation in re-adjusting the nation's business with politics. He said in part:

"Can we afford to rest our business fabric on the passing fancy, opinion or political bias of this, that or the other man representing whatever political party may temporarily be in power?

"The laws of our land are such at the moment that no man can find out what he can legally do in business matters; no lawyer, court or president can tell him; and while his transactions may clearly be proper, both morally and financially, the laws are so vague that one government official can take one position regarding them and another government official take exactly the opposite position, and the courts can do and are doing precisely the same thing.

"How can our country proceed with business and prosper while such chaotic conditions exist? How can we expect to embark on new and large undertakings under such conditions? New enterprises, new undertakings that mean so much to any country and to general business cannot and will not be started until this uncertainty is removed."

GRAPHITE has come regularly to me now for several months. I begin to look forward to its coming and enjoy it not a little when it arrives.—A. VAN TILDEN, Philadelphia, Pa.

## DIXON'S TRANSMISSION AND DIFFERENTIAL

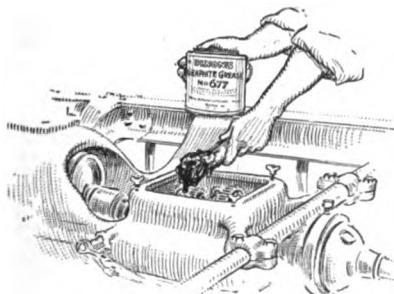
## GREASE No. 677

A graphite grease of medium density to be used in all transmissions and differentials, except those designed for light oil lubrication. It is also the most satisfactory lubricant for electric gear shift mechanisms and reverse gears of power boats. Another field where No. 677 has found favor is for filling the change-speed gear case and the wheel and brake hubs of motorcycles.

No. 677 is the standard with practically every racing driver because it furnishes dependable and efficient lubrication that can be obtained with no other grease. There is nothing like it on the market.

It flows with the gears at all temperatures, yet possesses the peculiar property of not running off the gears when the car is not in operation. It reaches all the bearings and provides a graphite coating that prevents the wear of parts, reduces friction and causes cool running at all times. If the bearings are close-fitting so that the grease cannot leak from the case it will last far longer than any other grease, because the parts remain so cool that the grease does not waste away. It may be injected by means of a grease gun.

Sold in one, five and ten pound tins. Larger packages if desired.



## “GRAPHITE” AS A TEXT BOOK

I enjoy GRAPHITE each month and find in it many suggestive articles. In our prevocational, industrial, manual training and manual arts work here in Boston, we are using as much material of this sort as we can obtain, feeling that facts about the materials and their use are taken more to heart by pupils in this way than through regular text books. We have called the attention of many schools to GRAPHITE and the successive issues are found of much practical use.—JOHN C. BRODHEAD, Assistant Director, Department of Manual Arts, Public Latin School, Boston, Mass.

## RECOMMENDS DIXON'S BOILER GRAPHITE

“We are getting excellent results from the use of boiler graphite. It is fed to the boilers as follows: Eight ounces are mixed in a barrel of water which is connected to the pump suction by a quarter inch pipe. A valve in the pipe regulates the flow so that the barrel is emptied four times in twenty-four hours. The graphite is kept from settling in the barrel by means of a small steam circulator. Upon opening a boiler we find that the scale-forming matter has settled to the bottom in the form of mud which is easily washed out. The water we use is taken from Artesian wells 300 feet deep. If anyone who uses Artesian well water in their boilers is troubled with scale we would recommend the use of Dixon's Boiler Graphite No. 2 to overcome this trouble.”—From letter, dated April 24, 1915, of H. M. SIMONS, Engineer, Ashepoo Works.

## RAMBLINGS OF A CHECK

A man made a bet with his wife—which was indiscreet.

The wife won—which was foreordained.

The man wrote the wife a check for five dollars in payment of the bet—which was sad.

The wife cashed the check at the grocery, but forgot to endorse it—which was natural.

The grocer, despite the lack of endorsement, paid it to a packing house collector—which was careless.

The packing house collector turned it in—which was all in a day's work.

The packing house office man discovered the lack of endorsement—which was good work.

He handed it back to the driver and docked the driver's salary—which was system.

The driver placed the check in his white duck coat and sent it to the laundry—which was unwise.

The laundry mutilated the check beyond recognition—which was to be expected.

Which is why the driver asked the cashier to ask the grocer to ask the man's wife to ask her husband to write a duplicate check. Which is why the man feels like he is paying that bet twice.—*Kansas City Star*.

Mr. Roger W. Babson, the well known statistician of Wellesley Hills, Mass., in one of his commercial reports makes “Suggestions Relative to South America.” He has just returned from a trip to South America and never before has he realized the importance of the Spanish language to citizens of the United States. He says: “Practically all of our island possessions have come from Spain, our neighbors talk Spanish or English, and yet our schools are content to teach French and German.” He believes that Spanish is to be a great world language, and in his articles during 1915, he will appeal to the school authorities of the United States to teach and place it at least on a par with French and German as a requirement.

He advised parents to see that their children learn Spanish. It will prepare them for the great Latin-American development with a knowledge which they will need. Spanish is not a difficult language to learn and it is very easy to read.

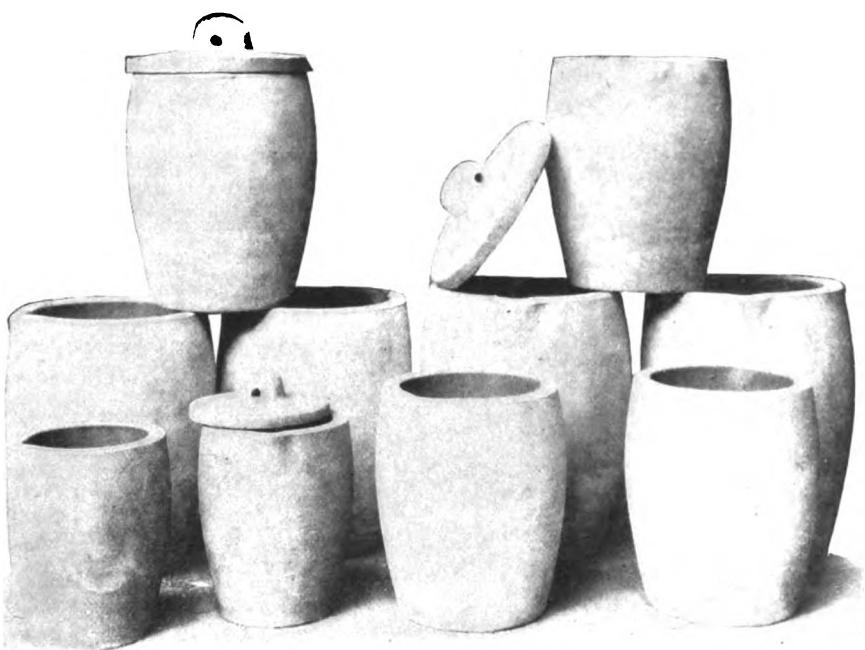
What Mr. Babson has written falls in with our own ideas. Those who have visited Cuba and Porto Rico will recall that while English is the official language in Porto Rico, nevertheless one will hear less English in Porto Rico than in Cuba, especially in Havana.

In Porto Rico there is apparently a strong prejudice against the English language. This was in evidence a short time ago when some of the school children in San Juan, Porto Rico, went on a strike against speaking the English language.

Although Porto Rico is United States territory, and the United States has its several bureaus in Porto Rico, yet the tourist in search of information will find it difficult to make himself understood in many of the bureaus unless he is able to speak Spanish to some degree.

The large number of tourists who visit Havana have made it necessary for hotel officials and the keepers of restaurants to employ clerks, etc., who can speak English.

DIXON's graphite publications sent free upon request.



“DIXON” stands for uniform, reliable crucibles—made right all through—right since 1827 when Joseph Dixon first made graphite crucibles and set the standard

## Dixon Crucibles

never had an equal, and have always lived up to or exceeded expectations. One reason why is because of the continual use of the laboratory. Chemical analysis of material is made daily. This teaches us how to keep Dixon Crucibles uniformly excellent—how to avoid errors.

*Ask yourself—“Why are Dixon Crucibles so widely used?”  
—then decide to find out. Write for Booklet No. 190-A*

MADE IN JERSEY CITY, NEW JERSEY, BY THE  
**Joseph Dixon Crucible Company**

Manufacturers of Crucibles, Pencils, Lubricants, Paint and other Graphite Products

ESTABLISHED 1827

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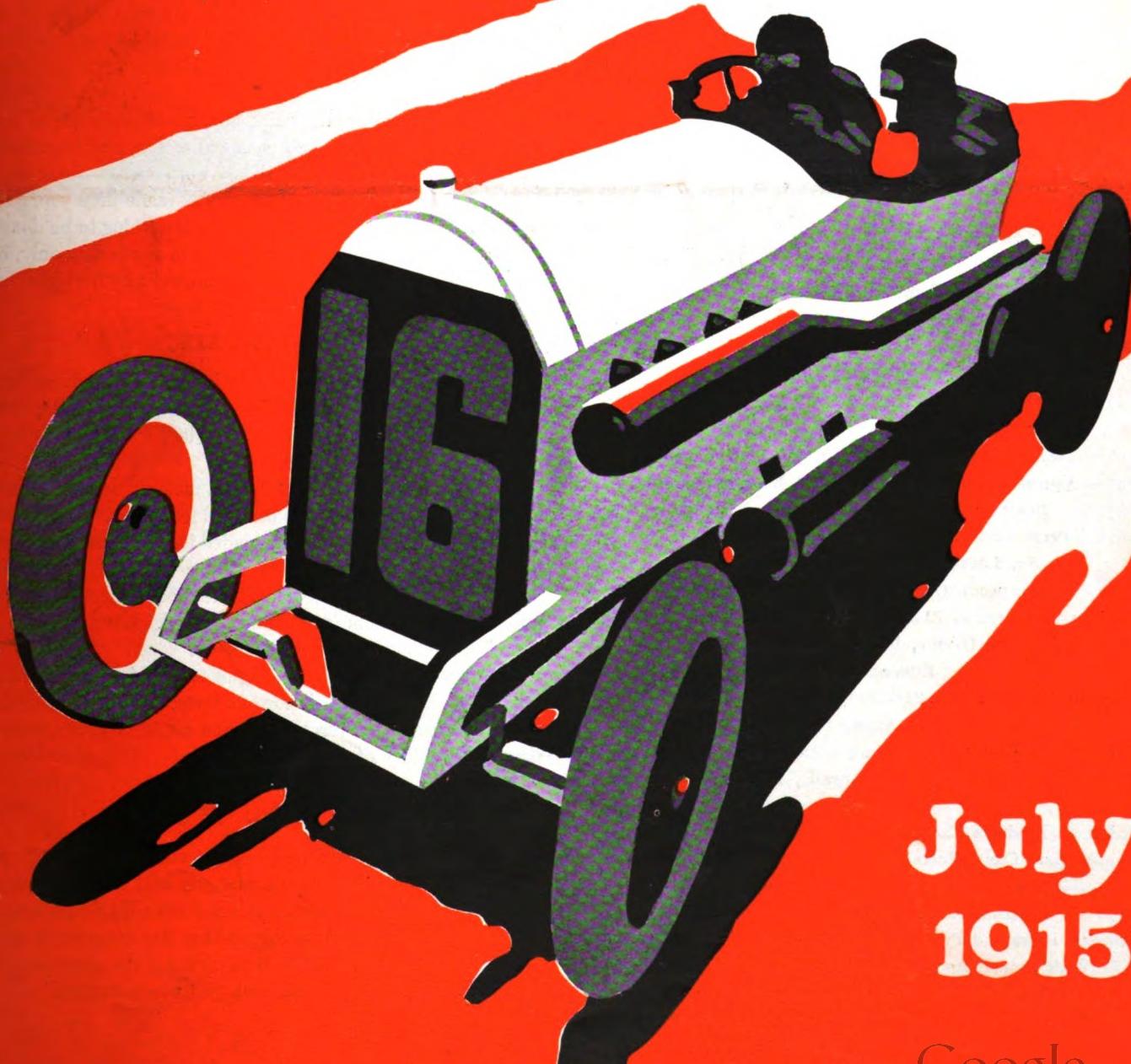
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# Graphite

Vol. XVII  
No. 7

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July  
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INCORPORATED 1868



## JOSEPH DIXON CRUCIBLE CO.

JERSEY CITY, N. J., U. S. A.

**Miners, Importers and Manufacturers of Graphite,  
Plumbago, Black Lead.**

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For all Products Except Dixon's American Graphite Pencils

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For all Products Except Dixon's American Graphite Pencils

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For Dixon's American Graphite Pencils, Etc.

National Paper and Type Company, 31-35 Burling Slip, New York

With Branch Agencies in Mexico, Cuba, Peru, Argentine,  
Uruguay, Venezuela, Porto Rico and Columbia

## GRAPHITE

July, 1915.

### FLORISTS USE PAINT

Shakespeare tells us that it is "ridiculous to paint the lily." Therefore, as it is needless to paint the lily or other flowers, the florist finds it quite necessary to paint his steam-heating pipes and other metal work.

The florist also finds it necessary to select a paint which gives off no odors or fumes detrimental to his beautiful and delicate flowers.

A professor at Cornell University wrote us sometime ago that he had been trying for many years to find a paint that would give satisfaction on steam-heating pipes. He said that he could not get a paint that would last over six months before the pipes would be badly rusted, and that it was a great annoyance and expense to take out the pipes and put in new ones.

After making a thorough test of Dixon's Silica-Graphite Paint, he wrote us that he found no paint to equal Dixon's for the purpose; that where other paints had not lasted over a few months, Dixon's Paint, at the time he wrote, had already given a service of two years on the steam-heating pipes, and was still in good condition.

The Dixon Company sells its Silica-Graphite Paint very largely to florists and to superintendents of botanical gardens throughout the United States and Europe.

We have on file a testimonial from the superintendent of a large botanical garden stating that Dixon's Silica-Graphite Paint is the best paint he has been able to find in his experience of twenty-five years.

Dixon's Silica-Graphite Paint is a good conductor of heat, gives off no gases, exerts no chemical action, and therefore is a perfectly safe paint for greenhouse purposes.

The reputation of Dixon's Paint was made fifty years ago, so that it is not a new paint, and there is nothing to be done in the way of experimenting. It is made in *one quality* only, but in four colors. We shall be glad to answer any inquiries.

### MANJAK PAINT

A circular has been sent us relative to a black paint made out of manjak, which, as we understand it, is one of the forms of asphaltum, as it is mined in Trinidad, from whence come large quantities of asphaltum.

We are advised by the circular that manjak, on being heated and mixed with naphtha, has no equal for the painting of metal surfaces. It is specially recommended for smokestacks, boilers, both inside and outside, etc.

We believe that the United States Government in various publications has time and again warned against the use of paint containing naphtha, benzine, etc.

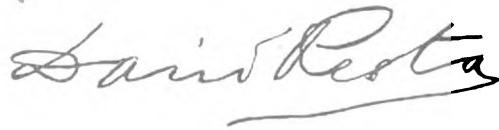
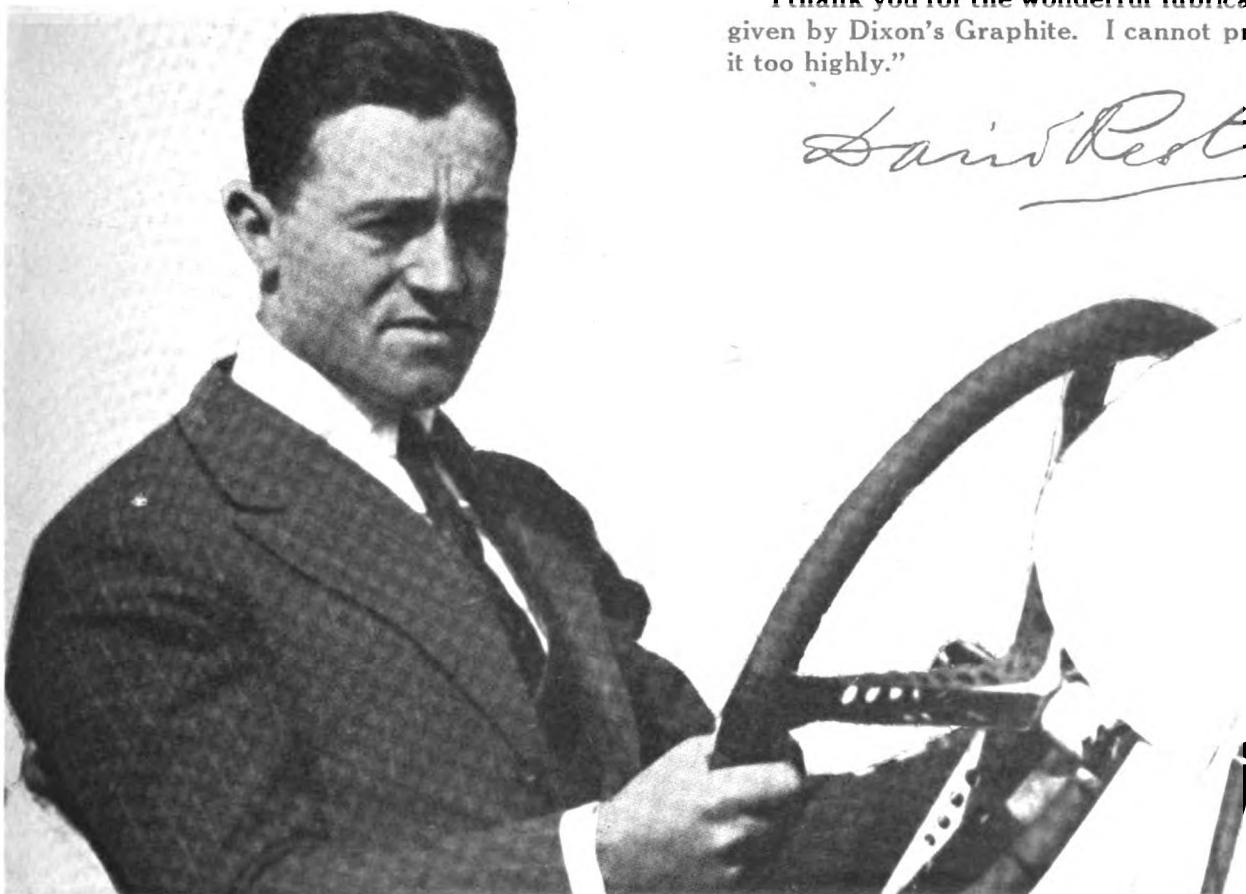
If a man should attempt the application of a paint, such as we mention above, to the inside of a boiler or tank, in all probability he would be overcome by the naphtha fumes, with a strong probability of death occurring.

### FROM A FRIEND IN ENGLAND

"Your London house has kindly sent me GRAPHITE for some years, for which please accept my best thanks. I have derived a lot of information from it and not a little amusement. I consider it the best house organ that has come my way."

"I must congratulate you upon running the paper so well all these sixteen years and I wish you every success."

"I thank you for the wonderful lubrication given by Dixon's Graphite. I cannot praise it too highly."

## WORLD'S AUTOMOBILE RECORDS SMASHED

Sensational Driving of Resta Greatest in History of Sport  
Already Earned Title of Champion

When Dario Resta, on February 27, 1915, won the Grand Prize Automobile Race at the Panama-Pacific Exposition grounds, a few thousand spectators and many thousands of others became interested in the fact that Resta was of Italian birth though a resident of England since almost his natal day. They were also interested to know that Resta had qualified for this triumph at Brooklands, England, by breaking, in twelve-hour contests, two world's records and that in 1912 he won second place in the Coupe L'Auto Contest.

When a week later Resta won the Vanderbilt Cup Race his complete history, both personal and professional, became public property. The fact that he won his bride in America, that he played golf, liked fancy roller skating and carried a small celluloid "Kewpie" in his winning Peugeot, were only a few of the many things of incidental interest to his performance of winning in quick succession the two greatest road racing contests in America and thus accomplishing what had never before been accomplished in automobile racing history.

Two months later, when Resta in the Fifth Annual 500-Mile International Sweepstakes Race at Indianapolis broke the speedway record and flashed across the finish line, less than four minutes behind the winner at an average speed of 88:91 miles per hour, the American racing public became thoroughly convinced that Resta was one of the greatest speed kings ever born to the sport.

In less than a month after the Indianapolis race, or on June 26, 1915, Resta won the first 500-Mile International Derby Race upon the new Chicago Speedway in the world's record time of 97.6 miles an hour, and forever insured himself to racing fame. In this race Resta broke four world's records and shattered even the speedway records made upon the famous Brooklands Track, England. It made his performance at Indianapolis seem like practice.

Resta is small of stature yet of great strength. He combines sensitive mechanical intuition with sufficient power to tame even the wildest motor car. As a result, while traveling at top speed all the time, he never punishes his machine unnecessarily nor loses control. These are two of the factors which help to make Resta such a great racing star. After winning at Indianapolis, Resta wrote: "I thank you for the wonderful lubrication given me by Dixon's Graphite Automobile Lubricants. I cannot praise them too highly."

Gil Andersen, winner of third place and prize money at Indianapolis, is the sturdy scion of an old Norse family. In the First International 500-Mile Sweepstakes Race, Andersen drove the first Stutz automobile ever entered in a race. Andersen possesses the unique distinction of having been a contestant upon the speedway at Indianapolis ever since the brick track was built. In the recent contest for fifth annual prize money, Andersen romped across the finish line in third place. He was one of the four to finish in better time than any of the previous winners in the Hoosier classic. Andersen's time was 86.6 miles per hour. In races won, Andersen has quite a notable collection, chief among which is the 1913 Elgin Trophy



Contest, which he annexed in competition with one of the toughest fields in history. His performance, during which, incidently, he set a new mark for the course of 71.5 miles an hour, was as heady a piece of work as was ever seen. Andersen wrote: "All notable Stutz winnings were made while using Dixon's Graphite Automobile Lubricants, which for several seasons have been used by Stutz racing teams."

Earl Cooper, winner of fourth place and prize money in the Fifth Annual 500-Mile International Sweepstakes Race, scored his first big win in the San Jose race in 1902. Since that time Cooper never seemed content with anything but first place. The taste of victory has been frequent and sweet. Cooper's early driving was in California and after breaking several of the inter-city records of that state and cleaning up generally upon the Pacific coast, Cooper decided to go after bigger game. Accordingly in November, 1912, he twice defeated the veteran Barney Oldfield and the next month won three out of four races from Burman at Los Angeles. The following year Cooper began a most remarkable string of victories. In February he broke the 200-mile record at Fresno, California. The following month he won second place in the San Diego Road Race. In May he was a relief driver at the Indianapolis Sweepstakes Race. In July he won both the Golden Potlatch and the Montamarathon races. The next month he won the Santa Monica road race, and in September he won first place in both the 450 class and the free-for-all Corona road races. In the same month he won the 100-mile free-for-all at Bakersfield; in October he won both the fifteen and twenty-five mile races at Fresno. These victories earned for Cooper the title of

"Champion Racing Driver" for that year. Cooper's time in the Fifth Annual 500-Mile International Sweepstakes Race at Indianapolis was 87:11 miles an hour, nearly five miles an hour better than the record made by René Thomas in 1914. "Never in my racing experience," says Cooper, "have I had a car run more smoothly than my little Stutz did there (Tacoma, 1912) and I can only believe that it was due to the use of Dixon's Graphite Automobile Lubricants. I want to say that while it took a great deal of urging to get me to try Dixon's it would take a great deal more to induce me to do without it in the future." At another time Cooper wrote: "Dixon's Graphite Automobile Lubricants are about as necessary to the racing car as is gasoline. I like that kind of lubrication for my little Stutz."

Eddie O'Donell, winner of fifth place and prize money, was the first driver to have finished without breaking René Thomas' record of the year before. Resta, Andersen and Cooper all finished in better time than the flying Frenchman, winner of the fourth annual classic. O'Donell has not allowed the grass to grow under his tires since winning at Indianapolis. In the recent 100-mile race at Galesburg O'Donell captured first place. One of O'Donell's most notable victories is the Glendale road race in California. After the Indianapolis race O'Donell wrote: "Excessive wear in the universal joints of my Duesenberg was unavoidable until Dixon's Graphite Grease No. 676 entirely overcame this trouble. Dixon's Motor Graphite has done away with scoring in the cylinders—I have always used it. But for that matter I have used Dixon's throughout all of my cars for the last two years."

**"Dixon's Graphite Automobile Lubricants are about as necessary to a racing car as gasoline. I like that kind of lubrication for my little Stutz."**

*Earl Cooper*



Bob Burman, winner of sixth place was, as usual, a favorite of the fans, but the famous speed king seemed to have an unusual run of hard luck and was forced to be content with the place and prize money that he won. Bob Burman wrote: "I cannot imagine words that sufficiently express my confidence in Dixon's Graphite Automobile Lubricants." The car which Howard Wilcox drove was number one. This number and the choice for position at the start of the race was accorded to Wilcox because in the elimination trials he succeeded in making the fastest lap. Wilcox won seventh place and prize money. Howard Wilcox wrote: "I consider Dixon's Graphite Automobile Lubricants superior to any other, and while their first cost is greater, their eventual cost is less." Tom Alley, who finished in eighth place, claims the speedway as his home. Upon a dirt track at Minneapolis, last fall, in competition with such stars as Burman, Mulford and De Palma, he ran away from the field, breaking the world's dirt track record for 100-miles and forever insuring himself to fame. Tom Alley wrote: "For a car that receives hard usage, I recommend Dixon's Graphite Automobile Lubricants. I used Dixon's here two days ago through the gruelling 500-mile race and my car is ready without change of a part to enter the Chicago race. I do not believe that any other lubricant would have given me this result." "Smiling Billy" Carlson was the only driver to win in both the 1914 and 1915 Hoosier classic. His record, insofar as place is concerned, is remarkably consistent, for in both races he finished in ninth place. "Smiling Billy" Carlson wrote: "Dixon's Graphite Automobile Lubricants are perfection. I have used them in every race I have

ever entered." Von Raalte, the last to finish in place and prize money, said: "After today's race, in which I used Dixon's Graphite Automobile Lubricants, I was pleased to find the gears and ball-bearings in perfect condition. After this very severe test, I must say that I fancy I shall use Dixon's again."

#### THE MANAGER'S FEELINGS

Every manager desires to keep in personal touch with the men who come under his direct or indirect control. He realizes their viewpoints in nearly every case and cares more for their individual feelings than he permits himself to show or even to think. The nature of his duties as an executive, not the disregard of their needs and feelings, as is sometimes thought, isolates him from the personal contact which he deeply wishes. He knows that talking to men in a mass has little effect on his relations with them, and that only working alongside of them could bring about a full understanding. That is, of course, impossible, and, no matter what he endeavors to do to improve the working conditions of employés and to make his organization more efficient, there will always be those who will either not understand or impute motives that are farthest from his mind. But the manager goes ahead with his work, undaunted by such things, knowing that in the end the square deal he is trying to give to all will be recognized and appreciated

—*Brill Magazine.*

"Dixon's Silica-Graphite Paint" is like the Pyramids; broadest base and highest point of protection.

—“but for that matter, I have used Dixon's Graphite Automobile Lubricants throughout all of my cars for the last two years.”

*Edward O'Donnell*



#### ORGANIZED ADVERTISING AS A BUSINESS FORCE

Mr. William Woodhead, president of "The Associated Advertising Clubs of the World," tells us that "it is estimated that over \$600,000,000 was invested in advertising of various kinds in this country in 1914. This is absolute and final proof not only of the marvelous growth of advertising, but of the wonderful results achieved."

"Gerald Stanley Lee, author of that very remarkable and worth-while book, "Crowds," says that success in business in the last analysis turns upon touching the imagination of crowds. The reason why preachers in this present generation are less successful in getting people to want goodness, than business men are in getting them to want motor cars, hats and pianolas, is that business men as a class are closer and more desperate students of human nature, and have bowed down harder to the art of touching the imagination of crowds. That is what advertising does—it touches the imagination of crowds, and that is why successful advertising is dependent on a knowledge of human nature."

"The time has passed for giving serious consideration to the man who does not believe in advertising. Advertising is as much a part of today's life as the telephone, the trolley car or the automobile. There is nothing magical or mysterious about it, and the greatest advertising successes have been due to the plain use of common sense applied with a knowledge of human nature, with the resulting creation of desire—the art of touching the imagination of crowds."

"Why is it that advertising has become such a powerful factor in the business life of today? Why is it that it stands on a much higher plane than it did a few years ago? Because in its early days advertising was unworthily used in the promotion of every sort of fraud, and people looked askance upon everything that was advertised. But nowadays it has acquired a new dignity and new strength, and the better publishers and better agencies are all concentrating their efforts in the direction that means more power and more credit to advertising."

#### CAMERA VERSUS PENCIL

It is well known that for the purpose of illustrating scenes and episodes that depend largely upon the imaginative resourcefulness of the artist, the pencil surpasses the camera. The record made by a photograph lacks the artistic touch or picturesque setting of a well-executed pencil sketch. The great illustrated weeklies of London, Paris and Berlin are filled with stirring pictures of the present European war, which, with the exception of the portraits of the killed and wounded, are the result of the pencil and brush by clever artists, and based entirely on descriptions received by telegraph or on hearsay reports and rumors. In some of the representations of actual carnage, the camera would have been powerless to depict the vividness and horror as grasped, perhaps, by the human mind.—WILFRED P. FRENCH in *Photo Era*.

DIXON's graphite publications sent free upon request.

# OFFICIAL RACING RECORDS

**Allowed and Accepted by the American Automobile Association  
Contest Board**

The following racing records were made by drivers who use Dixon's Graphite Automobile Lubricants. They do not include the records made in the recent Fifth Annual 500-Mile International Sweepstakes Race at Indianapolis. The total number of records allowed and accepted by the Contest Board of the A. A. A. is but 133, of which 77 appear upon this list

## Straightaway Free-for-all Records, Regardless of Class

Distance	Time	Driver	Car	Date
1 kilo	15.88	Burman	Blitzen-Benz	Apr. 23, 1911
1 mile	25.40	Burman	Blitzen-Benz	Apr. 23, 1911
2 miles	51.28	Burman	Blitzen-Benz	Apr. 23, 1911
10 miles	5:14.40	Bruce-Brown	Benz	Mar. 24, 1909
20 miles	13:11.92	Burman	Buick Bug	Mar. 30, 1911
50 miles	35:52.31	Burman	Buick Bug	Mar. 28, 1911
150 miles	1:55:18	Disbrow	Special	Mar. 31, 1911
200 miles	2:34:12	Disbrow	Special	Mar. 31, 1911
250 miles	3:14:55	Disbrow	Special	Mar. 31, 1911
300 miles	3:53:33.50	Disbrow	Special	Mar. 31, 1911
81.65 miles one hour	Disbrow	Special		Mar. 28, 1911
	(Standing Start)			
1 mile	40.53	Oldfield	Benz	Mar. 16, 1910

## Class "B" Stock Chassis Straightaway Records

(161 to 230 Cubic Inches)

5 miles	4:24.13	Towers	Warren-De.	Mar. 29, 1911
10 miles	9:10.52	Towers	Warren-De.	Mar. 30, 1911
	(301 to 450 Cubic Inches)			
1 kilo	26.75	Merz	National	Mar. 29, 1911
1 mile	40.32	Wilcox	National	Mar. 30, 1911
5 miles	3:56.82	Wilcox	National	Mar. 30, 1911
10 miles	8:03.67	Merz	National	Mar. 29, 1911

## Speedway Records, Regardless of Class

1/4 mile	8.16	Burman	Blitzen-Benz	May 29, 1911
1/2 mile	16.80	Burman	Blitzen-Benz	May 29, 1911
1 kilo	21.40	Burman	Blitzen-Benz	May 29, 1911
1 mile	35.35	Burman	Blitzen-Benz	May 29, 1911
2 miles	1:15.96	Bragg	Fiat	Apr. 13, 1910
3 miles	1:54.83	Bragg	Fiat	May 5, 1912
4 miles	2:33.37	Bragg	Fiat	May 5, 1912
5 miles	3:11.75	Bragg	Fiat	May 5, 1912
20 miles	13:58.14	Oldfield	Stutz	May 30, 1914
25 miles	17:30.40	Oldfield	Stutz	May 30, 1914
50 miles	33:45.32	Christiaens	Excelsior	May 30, 1914
75 miles	50:21.24	Christiaens	Excelsior	May 30, 1914
100 miles	1:10:46.50	Duray	Peugeot	May 30, 1914
150 miles	1:46:20	Duray	Peugeot	May 30, 1914
200 miles	2:25:11	Duray	Peugeot	May 30, 1914
250 miles	3:00:58.48	Thomas	Delage	May 30, 1914
300 miles	3:38:29.59	Thomas	Delage	May 30, 1914
400 miles	4:52:02.10	Thomas	Delage	May 30, 1914
450 miles	5:27:33.50	Thomas	Delage	May 30, 1914
500 miles	6:03:45.94	Thomas	Delage	May 30, 1914

## One Mile Circular Dirt Track Records

1 mile	46.20	Disbrow	Simplex	Aug. 8, 1914
2 miles	1:32.60	Disbrow	Simplex	Aug. 8, 1914
3 miles	2:27.81	Disbrow	Simplex	Sept. 14, 1912
4 miles	3:17.02	Disbrow	Simplex	Sept. 14, 1912

5 miles	4:06.58	Disbrow	Simplex	Sept. 14, 1912
10 miles	8:16.40	Burman	Peugeot	Jan. 3, 1915
15 miles	12:23.20	Burman	Peugeot	Jan. 3, 1915
20 miles	16:25.60	Burman	Peugeot	Jan. 3, 1915
25 miles	20:28.80	Burman	Peugeot	Jan. 3, 1915
50 miles	40:57.60	Burman	Peugeot	Jan. 3, 1915
75 miles	1:08:56.00	Burman	Peugeot	Oct. 22, 1914
100 miles	1:31:30.00	Alley	Duesenberg	Oct. 24, 1914
150 miles	2:30:51.00	Wishart	Mercer	Aug. 25, 1912
200 miles	3:21:48.00	Mulford	Mason Special	July 4, 1913

## Class "B" Speedway Records

(Stock Chassis, Piston Displacement)  
(451 to 600 Cubic Inches)

5 miles	4:01.36	Oldfield	Knox	May 30, 1910
200 miles	2:53:48.32	Disbrow	Rainier	Nov. 13, 1909
	(301 to 450 Cubic Inches)			
150 miles	2:05:02.17	Chevrolet	Buick	Nov. 9, 1909
200 miles	2:46:48.47	Chevrolet	Buick	Nov. 9, 1909
250 miles	4:38:57.40	Burman	Buick	Aug. 19, 1909
	(231 to 300 Cubic Inches)			
20 miles	17:10.70	Chevrolet	Buick	Nov. 11, 1909
	(161 to 230 Cubic Inches)			
5 miles	4:35.47	Chevrolet	Buick	July 2, 1910
10 miles	8:55.40	Chevrolet	Buick	July 2, 1910

## Class "C" Speedway Records

(No restriction other than Piston Displacement)  
(160 Cubic Inches and Under)

5 miles	4:26.08	Evans	Flanders	Nov. 13, 1911
10 miles	8:53.97	Evans	Flanders	Nov. 13, 1911
15 miles	13:24.00	Evans	Flanders	Nov. 13, 1911
20 miles	17:54.82	Evans	Flanders	Nov. 13, 1911
	(161 to 230 Cubic Inches)			
5 miles	4:20.20	J. Nikrent	Buick	Apr. 15, 1910
10 miles	8:40.17	J. Nikrent	Buick	Apr. 15, 1910
15 miles	13:14.52	J. Nikrent	Buick	Apr. 9, 1910
20 miles	17:37.36	J. Nikrent	Buick	Apr. 9, 1910
25 miles	21:12:42	Tower	Flanders Special	May 5, 1912
50 miles	43:49.69	Endicott	Cole	Apr. 9, 1910
	(231 to 300 Cubic Inches)			
25 miles	18:53.20	J. Nikrent	Case	May 5, 1912
50 miles	42:30.08	Siefert	Dorris	Apr. 8, 1910
	(301 to 450 Cubic Inches)			
5 miles	3:49.36	J. Nikrent	Buick	Apr. 17, 1910
10 miles	7:36.61	J. Nikrent	Buick	Apr. 17, 1910
	(451 to 600 Cubic Inches)			
5 miles	3:38.61	Oldfield	Knox	Apr. 16, 1910
10 miles	7:20.66	Oldfield	Knox	Apr. 16, 1910

## 24-Hour Track Races

Cl. "C" Spdwy. Fiat Verbeck & Hirsh 1,491 miles Apr. 8, 1911



### WINDOW DISPLAY OF DIXON'S GRAPHITE AUTOMOBILE LUBRICANTS AT HEARSEY-WILLIS COMPANY, INDIANAPOLIS, IND.

Upon the speedway, just before the start of each 500-Mile International Sweepstakes Race, the contestants line-up to be photographed. This year, however, the Hearsey-Willis Company of Indianapolis stole a march upon this speedway "photofest." In the window of this company, photo-cards of over a score of prominent racing drivers appear. Ribbons extending from these cards to a central card in the background serve to unite the window in a unique way and to focus attention upon the name of Dixon's Motor Graphite. In turn, ribbons extend from this card to eight other display cards at the extreme top of the window to indicate that Dixon's Motor Graphite is the basic lubricant of the other eight Dixon lubricants.

In the background another score of faces equally familiar to racing fans help to emphasize the sign above them that "They all use it." Dixon's Lubricating Chart, with which thousands of car owners are acquainted through the general newspaper advertising campaign of the Dixon Company, may be seen in our reproduction.

The Hearsey-Willis Company is located at 339 North Capitol Avenue, which in Indianapolis, is known as Automobile Row. This window display of Dixon's Graphite Automobile Lubricants, during the week of the speedway event, proved to be a

most timely advertisement. It is estimated that nearly 75,000 persons were in Indianapolis during the week of the race and that many thousands of this number thronged Automobile Row.

### EXPERIENCE IS SOME TEACHER

Owners of property, whether they are individual owners or corporations, know by experience that the use of cheap paints is no economy. They know that the cost of labor in painting and repainting is really the largest item in the cost and, therefore, experience has taught them that the longest service paint is the most economical paint for them to use.

The fact that Dixon's Silica-Graphite Paint has become a standard maintenance paint, practically speaking, throughout the entire world, is evidence that experience is some teacher and a good teacher.

The principal enemy to paint is the combination of moisture and air. Dixon's Silica-Graphite Paint, ground with pure boiled linseed oil, is the best resistant coating known to the ravages of corrosion and time.

A coating of Dixon's Silica-Graphite Paint properly applied to metal construction work will resist heat and cold, moisture, dust and acid fumes probably longer than any known paint.

If it were not so, Dixon's Silica-Graphite Paint would not be the standard maintenance paint which it now is.



**BRIDGE, BUFFALO CREEK RAILROAD,  
BUFFALO, N. Y.**

The above photograph shows a Strauss Trunnion Bascule Bridge over the Buffalo River at Buffalo, N. Y., owned by the Buffalo Creek Railroad.

The length of moving leaf is 156 feet, and the type is known as the "Strauss Heel Trunnion." There are 1500 tons of steel and concrete in the structure, and two sixty horse-power motors fully open and close the bridge in 1¼ mintues.

This bridge is the "last word" in modern bridge construction, as it contains every "safety first" feature possible in movable bridge construction.

This bridge was built by the American Bridge Company under plans prepared by the Strauss Bascule Bridge Company, and is painted with Dixon's Silica-Graphite Paint, known to the world as the *longest service paint* and the greatest economy paint, when you divide the years of service into the first cost.

**ELBERT HUBBARD**

Who has not heard of Elbert Hubbard? Whatever may be said of the writings of Elbert Hubbard or of the man, there is one word concerning him to which no one can take exception—Elbert Hubbard was "unusual." Whatever Elbert Hubbard wrote, whether you agreed with it or not, made you sit up and take notice—it made you think, and what more can we ask of a man than to make us think,—to consider.

As all of the readers of GRAPHITE well know, Elbert Hubbard and his able wife went down with the sinking of the Lusitania.

Quite a number of the Dixon staff had been given the pleasure of Elbert Hubbard's acquaintance, and in 1912 he contributed to the Dixon literature a little pamphlet entitled, "Joseph Dixon, One of the World Makers." It was written in the clever, readable style so characteristic of Elbert Hubbard, and just before he sailed on the ill-fated steamer, he sent out

the following circular letter, one of which was received by his friend, Mr. Norris, the assistant secretary and treasurer of the Dixon Company:

April 27, 1915.

My dear Mr. Norris:—

Saturday of this week, May 1, I board the Lusitania and sail for Europe. The foreign authorities have been very kind to me. I will be given an opportunity to observe conditions as they are.

A broad I will represent myself, and I will edit my own copy. I intend to store it in my bean, and in that way elude the censor. When I get back, if I do, I will give it to the readers of *The Fra* and *The Philistine*—straight.

I aim to be a reporter—not a war correspondent. (Raus mit der Puttees!) I will write about what I see; only that. You know what this inside stuff will do for my magazines' circulation!

I will return June 20, perhaps.

Before I go, I want you to write me something—something more than *Bon Voyage*. I want you to send me an order for advertising space for the July and August *Philistine* and *Fra*. Or write me—I'll send you six pages starting with September. Or I'll put you on the fall and winter list. I want to hear from you.

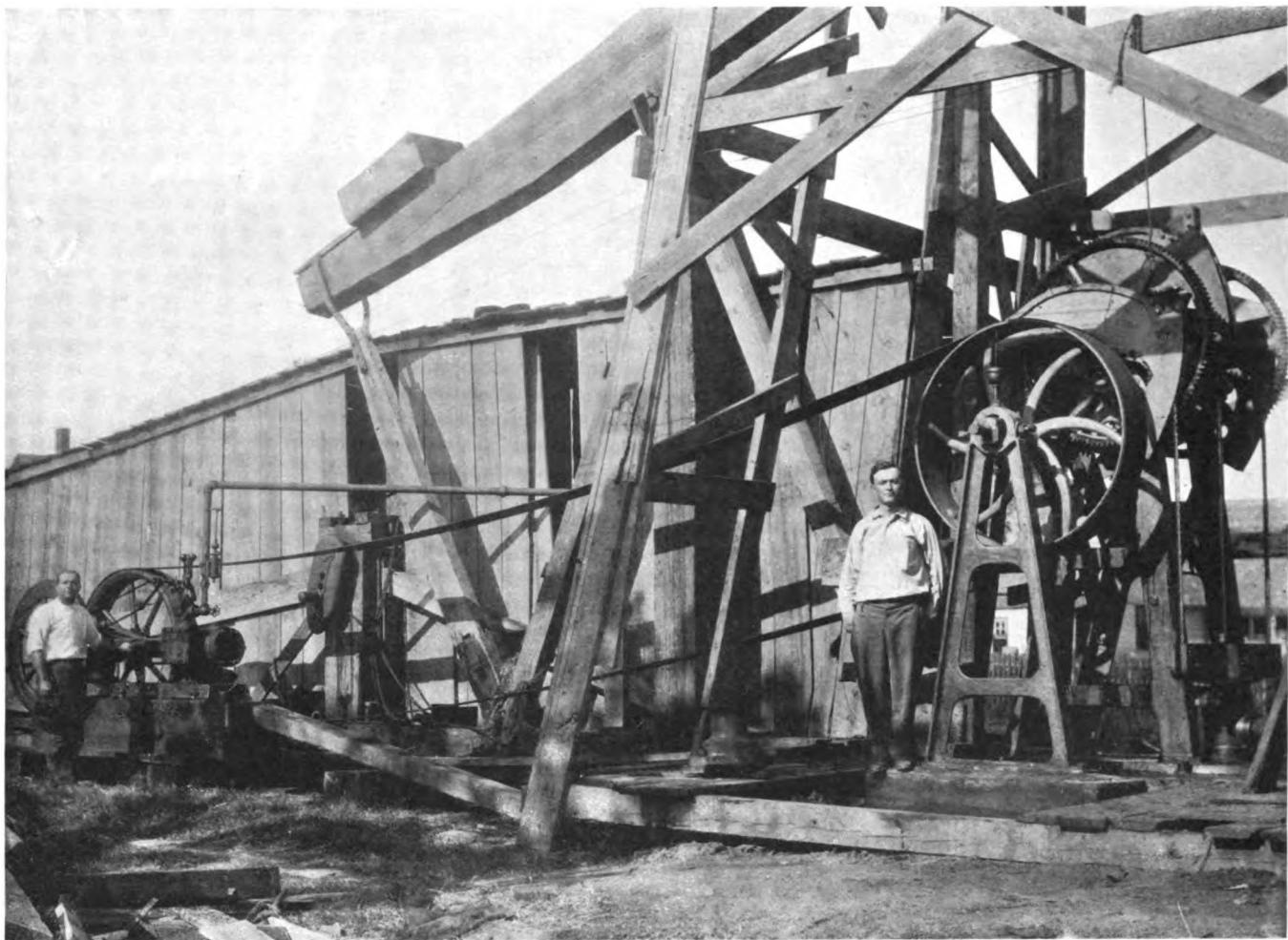
I may meet a mine or a submarine over there. Or I may hold friendly converse with a stray bullet in the trenches. But in that event Felix agrees to cancel your order! But in order to cancel it we must have it.

Your sincere

(Signed) ELBERT HUBBARD.

Mr. Norris is an old-time friend of Mr. Hubbard and is the possessor of many of the beautiful volumes put out by the Roycroft Shops.

DIXON'S graphite publications sent free upon request.



### HOW DIXON'S FLAKE GRAPHITE HELPS TO OPERATE BIG WATER PUMPS

This photograph is of a deep well pump recently purchased by the city of Bowie, Texas, and supplies water for the town of more than four thousand population. The entire plant is built by the Boicourt Company of Fort Worth, Texas, and is one of their double stroke, continuous flow deep well plants. The pump delivers 160 gallons per minute from a depth of 500 feet, producing a continuous flow, and supplants the walking beam arrangement seen in the rear.

In pumping this quantity from so great a depth there is a considerable load on the machine, the main bearings carrying a pressure of 25,000 pounds. In the installation of every machine the bearings are run in with a mixture of a good heavy cylinder oil of high viscosity, well mixed with a good percentage of Dixon's Flake Graphite for a period of two days continuous running, after which the bearings are considered safe, and are operated with a soft graphite grease.

The manufacturers of these machines state "that not in a single instance during the past two years has a machine been installed without this precaution, and it is very seldom that bearings even warm up under the treatment. After the machine has been run for two days with this graphite application, and the metal surfaces have become fully covered with a thin coating of graphite, there is no cause for injury to the bearings, and although the machines are often turned over to inexperienced help, we have never been called upon to replace or renew a single bearing."

"The pump rods also, which are 500 feet in length and lift a water load of 8,000 pounds, are screwed together at every joint with a bountiful supply of Dixon's Pipe Joint Compound, and while we can say that we have never had one of these joints to work loose, they are always easily unscrewed, and we find that the threads do not wear away from being repeatedly coupled and uncoupled, in repacking the valves.

"The gears which are all machine cut, are given a coating of heavy grease and flake graphite, and with the special balancing features of the pump, operate absolutely without noise."

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### HERE'S A TIP FOR THE SMALL PAINTER

By small painter we do not mean a painter small in size—we mean a painter who has only a fence or a roof or some small piece of property to paint.

Even such a small painter does not desire to repaint frequently—he wants to get the most durable paint obtainable and one that is at the same time ornamental.

Our tip to him is to follow the practice of the big railway corporation or the big municipal corporation and apply Dixon's Silica-Graphite Paint, which is both ornamental and protective.

It comes in four colors, but only in one quality—that's the very best possible to make.

Dixon's Silica-Graphite Paint has been on the market for fifty years and is known by reputation throughout the entire civilized world and has become standard in many countries as a maintenance paint.

**TO THINK BY WIRE**

Dr. Alexander Graham Bell, inventor of the telephone, hints that men may yet exchange thoughts by electric head coils.

At the annual meeting of the American Institute of Electrical Engineers, held in New York a short time ago, Dr. Bell said:

"What will come next? We now have electric light, electric power, electric speech, and a swarm of electrical appliances that have come into use during recent years. All of our knowledge of the external universe is derived from our senses, and science has brought electricity to the service of practically all of our senses. Are you going on? The possibilities of further development are inconceivable."

"Men can do nearly everything else by electricity already, and I can imagine them with coils of wire about their heads coming together for communication of thought by induction."

Dr. Bell further said:

"I have been struck by the fact that nearly all of the recent steps have had to do with vibrations. Suppose you have the power to make an iron rod vibrate with any desired frequency in a dark room. At first, when vibrating slowly, its movement will be indicated by only one sense, that of touch. Soon, as the vibrations increase, a low sound will emanate from it, and it will appeal to two senses. At about 32,000 vibrations to the second the sound will be loud and shrill, but at 40,000 vibrations it will be silent, and its movement will not be indicated by touch. Its movement will be indicated by no ordinary human sense. At 100,000, up to about 1,500,000 vibrations per second, we have no sense that can appreciate any

effect. After that stage its movement is indicated first by the sense of temperature and then, when the rod becomes red hot, by the sense of sight. At 3,000,000 it sheds violet light."

"Now the thought has occurred to me that there must be a great deal to be learned about the effect of those vibrations in the great gap where the ordinary human senses are unable to hear, see or feel the movement. The power to send wireless messages by other vibrations lies in that gap, but the gap is so great that it seems there must be more. You must make machines practically to supply new senses, as the wireless instruments do. Can it be said, when you think of that great gap, that there is no field in the further development of electrical science for you?"

**HOG**

There are a number of meanings to the word hog and there is a very large number of compounds. According to the dictionary we find "Hog, an omnivorous suid mammal."

We are puzzled a little on "suoid," so we look it up. "Suoid, Hog-like; of or pertaining to the Suidae." That helps some, but we continue the search and read the following: "Suidae. A family of ungulates especially setifera with about forty-four teeth, as the hog and the babiroussa."

And then we give it up; "ungulates especially setifera" discourages us from going any further into the hog question.

*Success* magazine says, "The securing of profitable and satisfactory prices narrows down to the salesman asking them."

**POSITION WANTED**

as assistant to Architect, Engineer or Draftsman. Experienced with all kinds of plans and specifications. At present employed in thousands of drafting rooms. Will accept work anywhere. I am



I sharpen easily, write smoothly, wear well and I am graded in the fourteen perfect degrees of hardness that meet the pencil requirements of the architectural and engineering professions. I am of hexagon shape, yellow finish and stamped in gold. Ask for free sample No. 190-J.

I am made in Jersey City, N. J., by the

**JOSEPH DIXON CRUCIBLE COMPANY**

ESTABLISHED 1827

## Don't Help Make Junk of Your Car

Don't let that fatal jinx of the automobile—Friction—cut short the useful days of your car. Remember—get to friction before friction gets to your car. This is the answer—proper lubrication!

Dixon's Graphite Lubricants are the absolute remedy for friction ills, because graphite goes straight to the cause of friction, gets right down to the microscopic snags that exist in the most highly polished bearings. Oil or grease only puts a thin film over this roughness. Pressure squeezes out the oil. Heat turns it thin. But Dixon's selected flake graphite makes a hard, oily, veneer-like surface that completely eliminates the grinding of the microscopic rasp. Try a can of

## DIXON'S Graphite Grease 677 For Transmissions and Differentials

and you'll quickly learn why winning speed kings, experienced road drivers, and men who drive simply for pleasure, use only Dixon Lubricants. Broken springs, burned-out bearings, broken gears, never bother the Dixon-lubricated car.

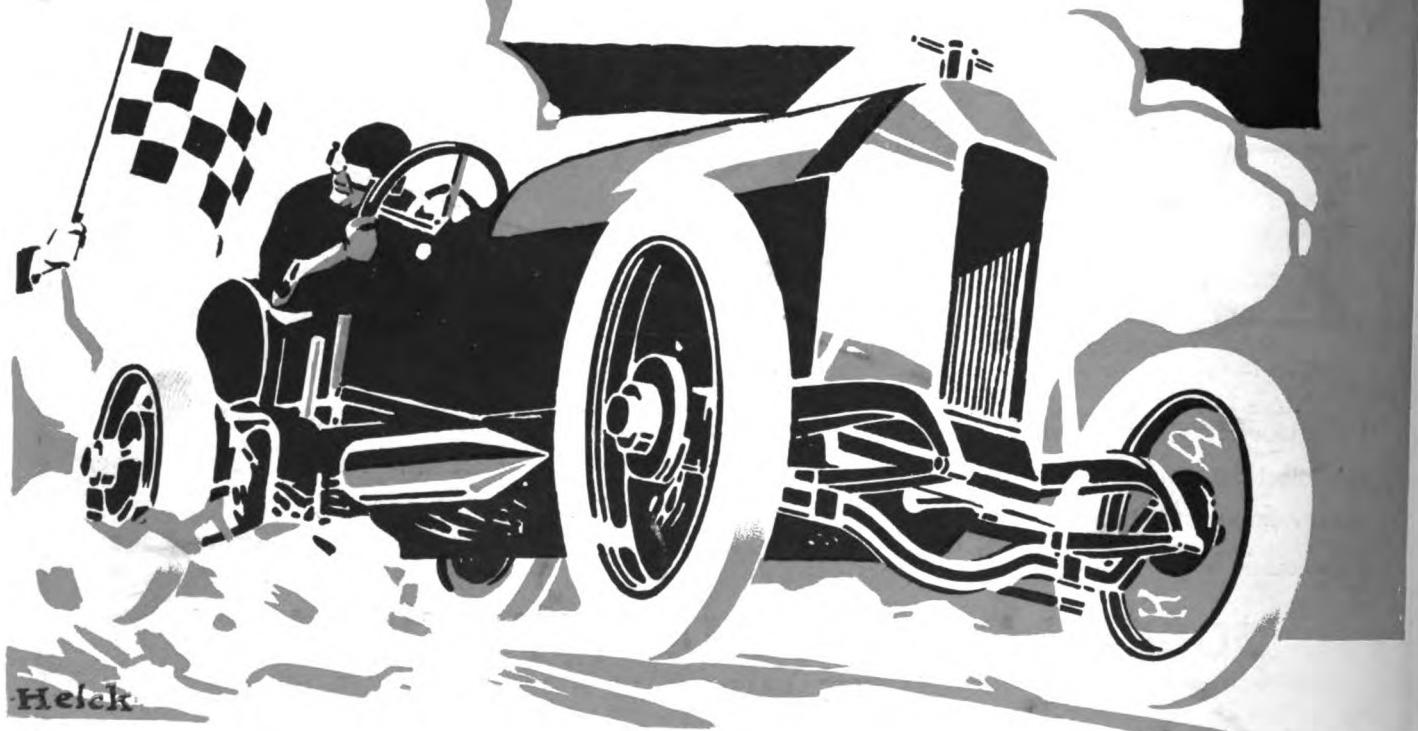
Heat or cold won't affect graphite. Pressure makes the graphite-lubricated surface smoother.

It's economical, too. Of course, its price is more than for ordinary grease, but compare your repair charges after six months' use of Dixon Lubricants. Then figure out your depreciation charges. You'll never use any other lubricant after that.

JOSEPH DIXON CRUCIBLE COMPANY  
JERSEY CITY, N. J.



*Established in 1827*

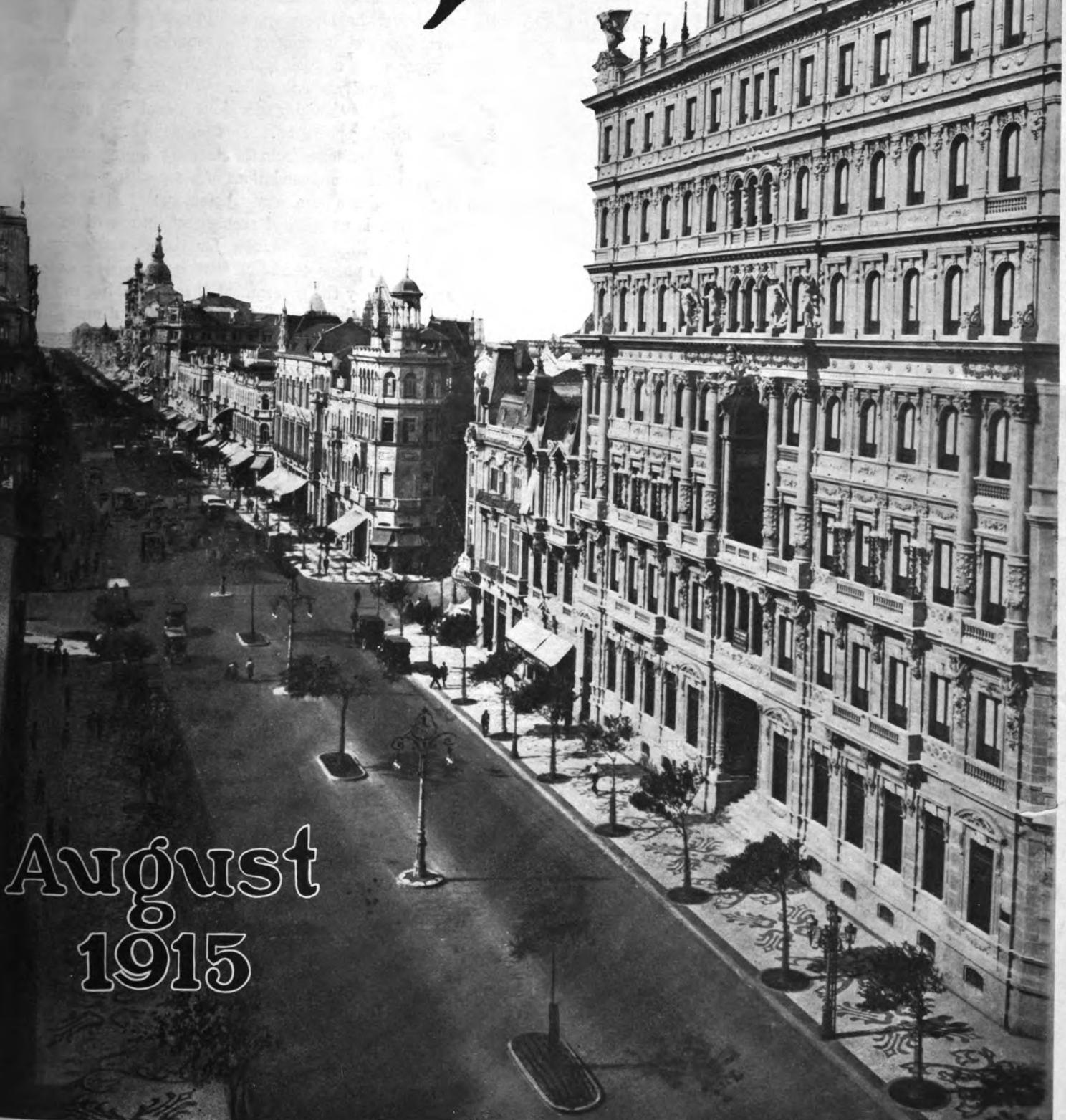


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# Graphite



August  
1915

ESTABLISHED 1827



INCORPORATED 1868



## JOSEPH DIXON CRUCIBLE CO.

JERSEY CITY, N. J., U. S. A.

**Miners, Importers and Manufacturers of Graphite,  
Plumbago, Black Lead.**

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### THE RESULTS OF A REFERENDUM

The Chamber of Commerce of the United States has just made public the results of a referendum on questions relative to the American merchant marine. In commenting on the result of the referendum, *Shipping Illustrated* says:

"In shipping circles the consensus of opinion relative to the referendum is one of almost complete indifference. It is hard for the practical shipping man to perceive how tangible results can be accomplished by such means as the taking of a vote among people, few of whom are qualified to pass an opinion on so technical a subject as the industry of marine transports. The manner in which the questions were presented precluded the expression of competent opinion. It will be noticed that the vote is overwhelmingly opposed to government ownership of sea carriers, yet it endorses the complete subscription by the government of a stock issue for the purpose of loans to shipping by a private enterprise. Why such a roundabout way of frankly authorizing the government to loan public funds on shipping property? This problem has been solved in Sweden by direct loans from the state to shipping companies, according to the recommendations of a consulting committee, and the results have been very satisfactory. In this country, however, there is no need of such direct intervention of the government in shipping finance, for there exist ample resources for such purposes and all that is needed is reasonable assurance given by the government that a shipping mortgage bank would have the good will of the supreme authority of the land to make its existence an almost certainty of the near future."

"Another vote was cast in favor of the granting of subsidies to offset the difference in cost of operation between vessels under the American flag and foreign vessels. At such a time as this such a proposition has all the appearance of a practical joke. It is a well known fact that at present the operating costs of an American ship are less than those of a British ship of the same speed, class and tonnage, added to which the American ship not being under statutory load-line regulations is able to carry more cargo than a vessel of her type owned in any of the leading maritime countries. With freights ruling at the existing level, this in itself constitutes a material subsidy in favor of the American vessel, while our shipping is also favored by the non-existence of laws fixing a scale of compensation for accidents to seamen due to perils of the seas, and the limitation of shipowners' liability law which protects him far against the consequences of damage inflicted by his vessel with his privity of the default of his servants than the British law, which fixes the shipowner's liability at \$40 per ton gross in case of property damage and at \$75 per ton gross in case of loss of life."

*Shipping Illustrated* submits the foregoing "only as an instance of the technicalities involved in the discussion of problems of ship operation as a bit of evidence that not much progress will be accomplished toward solving the difficulty which confront it by means of such amateurish efforts as the vote cast by the Chamber of Commerce of the United States and the bodies affiliated with it, of which there were more than six hundred in number."

WE READ that a sucker is a man who has not outgrown his confidence in the honesty of his fellow man.

GRAPHITE AUG 10 1915

3907



### **BRIDGE OVER OHIO RIVER, BETWEEN EAST LIVERPOOL, OHIO, AND NEWELL, W. VA.**

**Painted with Dixon's Silica-Graphite Paint over Nine Years ago and Still in Good Condition**

This is one of many similar long service records that we possess. It is not talk, freak advertising, price-cuts and other such devious methods that sells Dixon's Silica-Graphite Paint.

It is an endurance record like the above that wins customers, together with the economy involved. When you divide the years of service into the first cost, Dixon's Silica-Graphite Paint costs less per year than any other metal protector. "Cute" advertising, quotations from the poets and other "pretexts" for introducing the text cannot beat this right-to-the-point illustration, which is the whole text and practice of paint economy.

If you, as an owner or engineer, are really seeking service, instead of cob-web talk about it, look at this picture and "go and do likewise."

The Dixon label is not a thing apart from the contents, indeed we perform a little better than we preach.

The East Liverpool-Newell Bridge, above illustrated, is in charge of Mr. E. K. Morse, who is one of the most prominent bridge engineers in this country.

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### **USES THIRTY TO FORTY PENCILS AT A TIME**

It will interest aspiring young authors to know that Booth Tarkington writes all of his books in pencil. In the study where he works he has arranged on the table, in front of him, from thirty to forty well sharpened lead pencils. As soon as one of his implements loses its edge he throws it aside and takes up the next and continues in this way until his day's work is finished.

### **THE DOCTOR AND THE TROPICS**

Dr. Woods Hutchinson of New York, president of the American Academy of Medicine, in his address before the Academy said the world would see still further remarkable progress in the development of the tropics, and that in all colonization schemes the physician should prepare the way.

Dr Hutchinson said, in part:

"The real enemy of the pioneer, the chief obstacle to the spread of civilization, is not Indians, or wolves, or rattlesnakes, or even famine or flood, or winter cold or tropic heat, but insects."

Those of us who have had occasion to go into the tropics or even into our own Florida, and who have met the mosquitoes and the red bugs and the other insects, know that the real terror of the tropics is indeed those very small insects. They also know that it is not from the overturning of the earth or from the bad air that one gets the malaria, but that malaria comes from the mosquito, just as yellow fever also comes from the mosquito.

The doctor goes on to say:

"In the tropics the insects get the whip hand of man and keep him stupid, short lived, uncivilized. It was the plague of flies, the bloody tyranny of insects, that drove man out of the warm, comfortable, fertile tropics into the chilly, rain-swept, half-the-year-frozen north. Now, grown to full human stature, he is coming back to invade and reconquer the tropics and put to flight the ancient foes of the race."

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"WHEN a manufacturer puts his business name and the retail price on his merchandise, he has practically signed a contract with the public to deliver goods worth that price. His success depends upon public approval of the quality at the price."—*American Fair Trade League*.



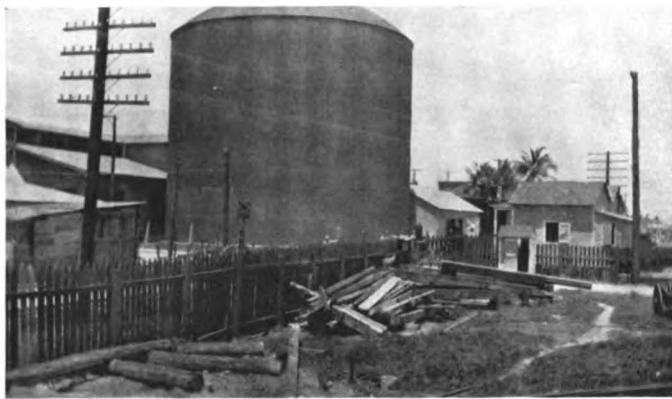
SUNNY PORTO RICO

How many realize that glorious, sunny Porto Rico, with its cooling and refreshing trade winds, is United States territory? Too few. Also too few Americans have visited this fertile island and observed its vast possibilities for supplying America with much that the tropics and sub-tropics produce.

The illustrations give, above, a general idea of the landscape, and below, the sugar central Canovanas of the Loiza Sugar Company, located at Canovanas, Porto Rico. It was the first sugar factory on the island. The smokestacks are painted with Dixon's Silica-Graphite Paint, Black, which is widely used in Latin-America for all metal work.

The lower photograph shows the molasses tank (1,000,000 gallons) of the Boston Molasses Company at San Juan, Porto Rico. It is painted with Dixon's Silica-Graphite Paint, Dark Red.

The Dixon Company takes pleasure in stating that Mr. H. Glyde Gregory, Royal Bank Building, San Juan, is the representative for Dixon's Silica-Graphite Paint, Crucibles, Graphite Lubricants and other graphite products except lead pencils, in Porto Rico, and any inquiries addressed to him will receive immediate attention.



#### FINDS OLD COPY OF "GRAPHITE" USEFUL— REQUESTS ANOTHER

"We acknowledge with thanks the copy of June, 1912, GRAPHITE. Our original copy containing the metric conversion table is completely worn out. It was of such substantial value to us that we wanted another copy without delay. We are getting a liberal education in the metric system these days and the conversion table is but one of the many things we find useful in GRAPHITE."—L. J. KANE, *Secretary*, The Riverside Metal Company, Riverside, N. J.

#### OLD PAINTS AND NEW

The *Hardware News* quotes Mr. George L. Gould, the dean of the paint trade in New England, as saying:

"In regard to the paint for outside work, the remark is often made that paints of today are not nearly so good as they were thirty to fifty years ago, and this, to a certain extent, is true, in so far as results are concerned. There should be, however, many things taken into account as happening now, compared with the olden times."

Of course, Mr. Gould's remarks refer entirely to the various paint pigments other than silica-graphite. Silica-graphite is not affected in any way by the destructive agents mentioned by Mr. Gould.

Mr. Gould also remarks:

"Furthermore, where in the olden times the linseed oil that was used was made from flaxseed by cold pressing without any dampening, now the seed is heated up with hot water, or rather steam, and intense pressure brought to bear, so that until the moisture is evaporated, the linseed oil is not apt to be so good nor the result so satisfactory as when this moisture is eliminated."

Evidently these remarks of Mr. Gould refer to raw linseed oil, as in the old days raw oil was used very generally, especially with lead pigments. When the oil was boiled it was usually boiled by the painter himself in an open iron kettle. Then it was, and only then, that he was assured of a really boiled oil, otherwise the old time painter was very apt to get what was known as "bung hole" oil, which means that some powerful dryer had been introduced through the bung hole and the "contents well shaken before taken."

The linseed oil used by the Dixon Company in the manufacture of its Silica-Graphite Paint is genuine boiled linseed oil, from which the moisture mentioned by Mr. Gould has been "eliminated."

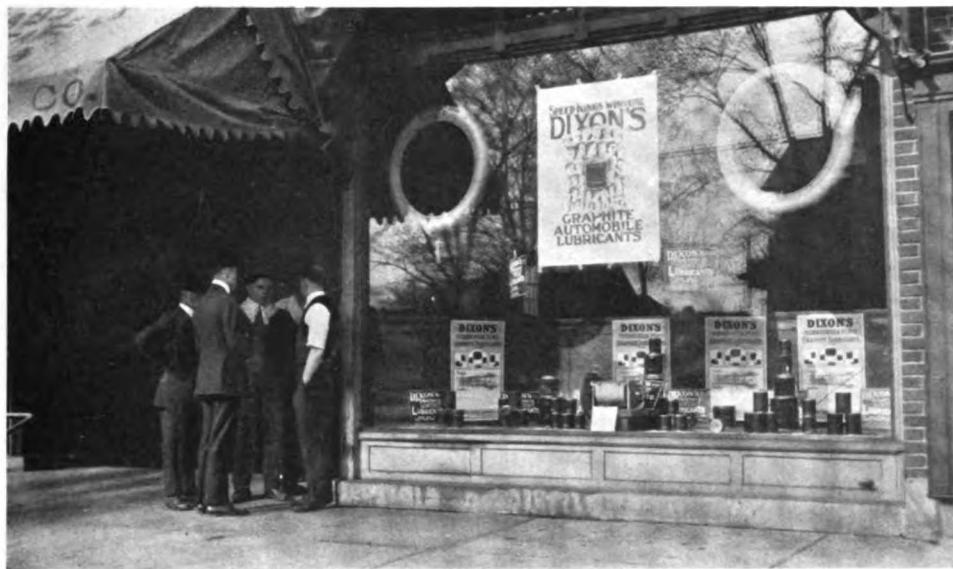
Therefore for a truly protective paint, so far as we know, there is nothing to equal Dixon's Silica-Graphite Paint, which is made in *one quality* only and in *four colors*. No light colors can be made in graphite paint, although we understand that there are parties who undertake to furnish graphite paints in almost any color desired.

While we are writing about paint we may as well mention that there are parties offering "pure graphite" paints. Pure graphite paints, of course, can be made the same as pure gold rings or pure gold chains. For durability no one would think of buying a pure gold ring or a pure gold chain, and the silica in Dixon's Silica-Graphite Paint gives to the paint the same toughness and durability that the copper gives when used as an alloy in twelve to sixteen karat gold products.

#### OWN A HOTEL?

"We would like very much to have you send us another thousand blotters to be placed in the rooms and on writing tables in the lobby of our hotel. They are the best and most satisfactory we have had."

The preceding paragraph is quoted from the request of an Alabama hotel proprietor whom we furnished with a quantity of Anglo-Saxon Pencil blotters for distribution among his patrons. If you own or manage a hotel or public place where blotters would be appreciated by your guests or patrons, write to us stating the quantity you could use.



#### DIXON DISPLAY "MADE IN DETROIT, U. S. A."

GRAPHITE is always glad to record work well done. In the wake of Dixon representatives many things happen that are pleasing to the eye and that reach us through a photographer's lens. Here is one of them. At No. 2130 Woodward Avenue, Detroit, Michigan, is the home of the Tire and Auto Supply Company. It is probable that not many passed this address without pausing to look at the display of Dixon's Graphite Automobile Lubricants and to wonder why so many racing drivers recommended them. A chart that prescribed for proper summer and winter lubrication, a transmission that relied upon performance and that threw promise to the winds, and last but not least, cans with the magic number 677 upon them to indicate what transmissions and differentials need—all these things, and more too, helped to hold and impress the man on the outside that the Tire and Auto Supply Company is alive to the fast growing demand for better lubrication.

#### LIFE

Be brave, simple, independent; pierce to the heart of things; do the thing that is right; find the thing that is true. Life, which often seems a poor extemporaneous thing, is really an episode of eternity, and every man must at some time bring his life and set it in eternity.—BISHOP BROOKS.

Life develops from within. Every event is the logical and the inevitable sequence of a long chain of antecedent circumstances.

Life, even the one part of life in this world, has its tides of ebb and flow; its definite cycles, so to speak; its periodicity of recurrence. "Another life," exclaimed the Princess Halm-Eberstein to her son, Daniel Deronda, "another life? I have long since entered on another life!"

These entrances on "another life" occur to a greater or less extent within the mortal limits of every human experience. There are times when one has exhausted the environment in which he dwells. He finds himself transferred to a new one, in a new city; perhaps even in another country, where all the scenery, circumstances and characters of life become new. The event of death is by no means the only event which may transplant one into another life.—LILIAN WHITING.

#### FOR EXCELSIOR AUTO-CYCLISTS

##### Read the Instruction Card of Lubrication for the Transmissions

This is the open pleasure season for all good auto-cyclists. With an auto-cycle, men, women and children enjoy the country roads and highways and byways with less trouble and expense than those who travel in large motor vehicles. In common with its big brothers of the road the Excelsior Auto-Cycle thrives upon good lubrication. No owner realizes this more thoroughly than does the Excelsior Motor Manufacturing and Supply Company of Chicago, Ill., manufacturers of auto-cycles. With each new Excelsior sold is an instruction tag for those who would get the greatest pleasure, the longest mileage and the most satisfaction from their purchase. If you own an Excelsior and did not get one of these tags you should know that the transmissions of your Excelsior should be lubricated with Dixon's Graphite Grease No. 677. About  $\frac{3}{4}$  of a pound is required. Examine the grease every 1000 miles and replenish if necessary. Clean out and repack every six months. These instructions are recommended by the Excelsior Company for the attention of all good auto-cyclists who take pride in the up-keep of their machines.

DIXON's graphite publications sent free upon request.

**Have you met the**

**DIXON'S**

**ANGLO SAXON**

"Seven Inches of Pencil Perfection"

**It's chock-full of genuine**

**DIXON quality!**



## THE CITY OF RIO DE JANEIRO

By Alfredo J. Eichler, Representative of the Joseph Dixon Crucible Company for South America

Wonderful indeed must have been the natural glory of the site of Rio de Janeiro in its pristine state. Embellished by the hand of man, Rio now stands pre-eminent among coastal cities of the world. In spite of the mental comparison made by all travelers who have visited her vaunted competitors, the Golden Gate and Sydney harbors, it is no exaggeration to say that Rio remains in a class alone, stately and grand in the colossal superiority of her verdure covered mountains and sublime in the simple beauty of her beautiful valleys.

The Bay of Guanabara, usually known as the Bay of Rio, lies studded with a hundred isles shadowed by projections, peaks and pinnacles, all beautifully wonderful and wonderfully beautiful. The bay is eighteen miles in length and twelve miles at the maximum width, and is said to be able to afford an anchorage for the fleets of the world.

To the left of the entrance of the bay there projects the huge rock known as "Sugar Loaf," which is reached by the aerial railway from the terminus of the Praira Vermelha tramway. Proceeding towards the city of Rio, the panorama commences to unfold. Beauties ahead, to the left and to the right, are too great and numerous to permit of anything but a bewildering appreciation.

At a distance of two miles from the entrance to the bay the traveler on the steamer faces Rio de Janeiro. At a first view the visitor may well wonder as to the means of access to the various parts of the city which appear to be a series of hills. It is not until the landing is made that the vastness of the metropolis is appreciated, and only then by traveling through

the well-kept streets by auto-bus or motor along the Beira Mar, Botafogo, and past hills to the right and through the tunnel leading to Lemme and Ipanema.

Prior to the year 1904 the city proper was in a state which called for the attention of the powers in charge. Improvements were inaugurated which did away with the narrow streets and unsightly structures then existing. The Avenida Central was created, which is now known as the Avenida Rio Branco. To accomplish this, 590 buildings were demolished and the Avenida was completed within six months. Running practically parallel with the eastern shore of the central portion of the city, the Avenida is a mile and a half in length and over one hundred feet wide. In its length it crosses eleven streets, many of which may be seen in the photograph that appears upon the cover page in this issue of GRAPHITE.

The Avenida Rio Branco, the Rua Cuvidor and Rua Goncalvez Diaz, form the fashionable promenades of the life and fashion of Rio. In the Avenida at all times of the day may be seen a procession of motor cars carrying shoppers, visitors and others on business bent.

The café proprietors are permitted to place their tables near the edge of the pavement and the general public makes use of them to watch the passers-by, taking a cup of coffee or other refreshment while observing and being observed.

The buildings are anything but uniform in height and architecture, yet nevertheless the general aspect of the Avenida is striking. Among the principal structures are those of the *Jornal do Comercio*, Fine Arts, The Naval, Military and Central Clubs, the Jockey Club, Monroe Palace, Municipal Theatre, two large hotels and numerous buildings of shops and offices.

The Avenida Beira Mar commences at the southern end of the Avenida Rio Branco and follows the shore for nearly four

miles with only one short interruption. The Beira Mar is perhaps the most beautiful avenue in the world and contains a spacious double motor road with wide foot paths and well kept gardens. At intervals along the length of these gardens are statues and fountains protected by a substantial sea-wall from the destructive effects of the waves, which on one occasion, before the reconstruction of the wall, were so great as to play with the great slabs of stone as though they were so many pebbles.

Illuminated both by gas and electric light, the Avenida Beira Mar forms a brilliant thoroughfare from sunset till sunrise, traversed by automobiles the whole night long. Not alone is this extravagant illumination confined to the Avenida Beira Mar. Rio de Janeiro is perhaps the most extensively lighted city in the world and shows a reflection at night at a distance of forty-five miles out to sea.

The electric and gas lighting, telephone and street car service is supplied by the Rio de Janeiro Tramway Light and Power Company, Ltd., which is one of the best organized and managed companies of its kind in the world. This company had considerable trouble with paints until they started using Dixon's Silica-Graphite Paint. The atmospheric conditions in Rio are very hard on paints owing to the intense heat, moisture, etc. Probably there is no place in the world where the conditions are harder on paint than along the Avenida Beira Mar. Quite frequently the surf is heavy enough to throw a salt spray, mixed with sand, over the electric light and gas poles, and this, with the hot sun, has caused all other paints except Dixon's Silica-Graphite Paint to bleach out or peel off in a comparatively short time.

The electric poles along the Avenida Beira Mar have now been painted for nearly two years with Dixon's Silica-Graphite Paint of dark red color, and today the conditions of the paint is perfect, looking as if it had only been recently applied.

All the poles on the Avenida Rio Branco are also painted with Dixon's Dark Red Paint. It is interesting to note that the city of Rio has an engineer whose duty it is to see that the poles are kept in proper condition, and who also specifies the color with which they are to be painted. Sometime previous to the South American representative of the Dixon Company bringing the paint to the attention of the company, the engineer had specified that a color exactly the same as the Dixon Dark Red was to be used. Therefore, Dixon Dark Red Paint was readily adopted and the poles, practically all of which are of the large ornamental type, look very fine indeed and both the Rio de Janeiro engineer and the Light and Power Company, are very well pleased with the result.

While we, as a rule, point out the longer service that Dixon's Silica-Graphite Paint gives rather than its appearance, this case in Rio illustrates the fact that the paint also has a very fine appearance, as it is being used on one of the, if not the most beautiful avenues in the world. While the service given by the Dixon Paint was a large factor in its selection, it necessarily had to look beautiful on the large ornamental poles to have proved satisfactory to the Brazilian people, to their engineer and to the Rio de Janeiro Tramway Light and Power Company, all of whom would be satisfied with only the very best. This is a case where not only has Dixon's Silica-Graphite Paint proved a money saver for the company, but its appearance has also caused considerable favorable comment.

Dixon's Graphite Products can be found playing important parts in all parts of the world.—ALFREDO J. EICHLER.

## PAINT FOR CONCRETE BLOCK PLANT

Dixon's Silica-Graphite Paint has found a new field. We have just received a letter from a prominent manufacturer of architectural concrete stone who writes that he has used Dixon's Paint on the iron concrete block cars and racks, and that the paint has given excellent results in keeping the cars and racks from rusting. These cars are loaded with green blocks and run into a curing room filled with steam at about seventy-five to eighty degrees and at about five pounds boiler pressure.

As the moisture is heavy and constant, the test which Dixon's Silica-Graphite Paint has successfully passed, shows its unrivalled protective qualities for all metal work.

## CHOCOLATE

*Food for the Gods*

In every civilized country of the world the dark brown cake of commercial chocolate is known. Chocolate is the drink and food of many lands, but few know that it is made from a bean which grows on a beautiful tropical tree.

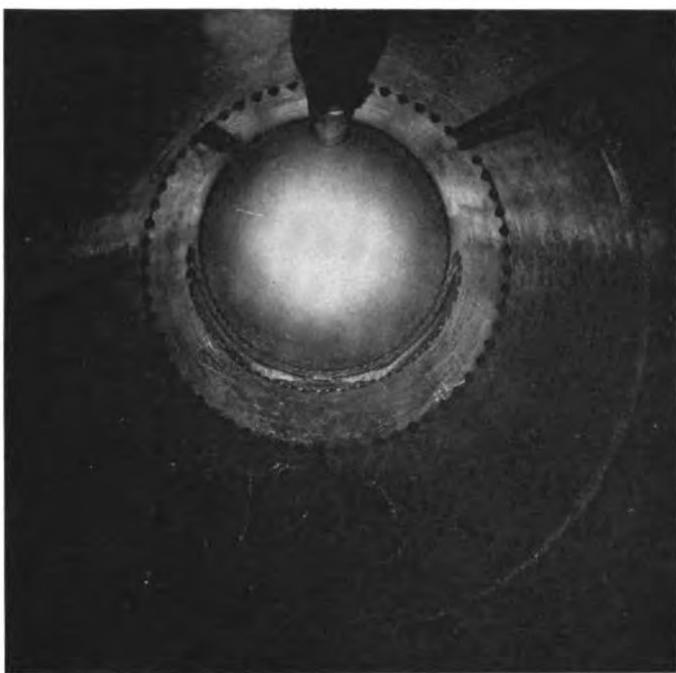
*Theobroma Cacao* is the scientific name of the tree and it means "Food for the Gods." The tree grows to a height of sixteen or eighteen feet when cultivated. The fruit is pod-shaped like a cucumber, from seven to ten inches in length and from three to four inches in diameter, has a thick, leathery rind, and its interior is divided into five long cells, in each of which is a row of from five to ten seeds inbedded in a soft, pink pulp. These seeds, which look much like thick almonds, are the cacao beans of commerce.

# The USE and ABUSE of BALL and ROLLER BEARINGS

By F. J. JAROSCH

Explanations and experiences which help in the selection, mounting and lubrication of ball or roller bearings in automobile gears and all other rotating parts. Helps to detect the *real* cause of trouble. Written by the chief engineer of the Bearings Company of America, an expert and an authority. Read this treatise beginning in the September issue of GRAPHITE or write for a copy in booklet form published by the

**JOSEPH DIXON CRUCIBLE CO.  
JERSEY CITY, N. J.**



### SILICA-GRAPHITE PAINT FOR STEAM BOILER DRUMS

The photographic reproduction at the head of this article is neither a head-on view of a tunnel train nor Diogenes searching a gas or water main. A photograph of the interior of a steam boiler drum is something out of the ordinary. The editor of a technical trade journal devoted to the subject of boiler making, recently admitted that he had never seen such a photograph and doubted if one could be taken. The reproduction, though of more than usual interest on this account, is of greater interest to the engineer in the power plant where pitted boilers and scale form a common enemy against boiler efficiency. The reproduction shows the excellent condition of a drum painted with Dixon's Silica-Graphite Paint every ten months. The only other care or treatment given to this drum for a period equal to five months and nineteen days of continuous use was one and one half pints of flake boiler graphite, fed every ten hours. The most remarkable fact in connection with the opening of this boiler was, as indicated in the reproduction, the thin coating or layer of dust. Scale was neither visibly nor physically in evidence and a few brush strokes sufficed to restore the drum to a most satisfactory condition. At the plant where this photograph was taken a careful record is kept of the performances of materials and supplies used to reduce operation costs.

### UNCLE SAM AS A CANDY EATER

Perhaps few people realize that over \$500,000,000 are spent for candy in a single year in the United States. New York is the largest candy-consuming center in the world. According to Professor Surface in his excellent little work, "The Story of Sugar," if all the candy consumed in New York in one year had been shipped in on a railroad it would have taken five trains of candy per week, each train having fifty cars loaded to the limit with the confections. Verily, New York has a "sweet tooth," and great is "King Sugar" who satisfies it. Incidentally, the remainder of the world also consumes much candy, but the needed statistics are not available.

### "THE DEADLY TOLL OF TRESPASS ON RAILWAYS"

The Railway Business Association is sending out information and statistics that should command the attention of people generally if they are at all in favor of "safety first."

Stricter laws and stricter enforcement for the prevention of trespassing upon railways are urged upon the state legislatures for the reason that from 1901 to 1910 there have been over 100,000 persons killed or injured while trespassing on railways of the United States, 33,000 under twenty-one years of age.

In the United States laws against railroad trespassing are generally not enforced.

In the United Kingdom persons other than passengers or employés found on railroad property are fined \$10 for each offence. The result is shown in the following figures:

	Killed	Injured
United States	1901-10	50,025      53,427
United Kingdom	1901-10	4,434      1,315

France punishes trespasses by fines up to \$579 and jail up to a month.

Germany, by fines up to \$25; Canada by fines up to \$50 and imprisonment up to two months.

The Wabash Railroad operates a part of its mileage through Canada. In the year ending June 30, 1914, of the ninety-four trespassers killed on that road only three were killed in Canada.

In the United States laws are few, and even where penalties are prescribed, magistrates hesitate to impose them, as local authorities dislike to feed and lodge convicted tramps. Trespassers, however, include little children and wage earners living in the vicinity, whose death or disability leaves families destitute.

### PREFERENTIAL TARIFF

The meaning of a preferential tariff is not clearly understood by all. Mr. Wilbur F. Wakeman, treasurer and general secretary of the American Protective Tariff League, enlightens us on the matter as follows:

"In respect to the general subject of a preferential tariff, a preference and discrimination are really complementary terms, since in each case the preference accorded to one country results in discrimination against another.

"Preferential tariffs may be characterized as colonial preference and preference in favor of foreign countries.

"The most important systems of colonial preference are the French and the British. For the other character of preferences the following may be considered, in respect to products of the United States: Cuba by treaty since December 27, 1903, and Brazil by authority granted to the president of Brazil by the Brazilian congress.

"For several years preference was extended to the United States by Brazil on a number of commodities. It was not the result of any formal treaty or commercial agreement between the two countries, but was provided for by the annual budget law, which granted authority to the president of Brazil to reduce duties on imports from countries which give especially favorable treatment to coffee and other important Brazilian products. The authorization had to be renewed annually and each year a new presidential decree was necessary for the continuance of the preference."

# GRAPHITIZED

A Column of Paragraphites and Dixonized Happenings

Perfect paint for Particular People!

That's Dixon's Silica-Graphite Paint and no other.

EL DORADO, ARK.

Dixon's graphite is fine. I hope I can have it to use as long as I run an engine.—G. C. MOORE, *Rock Island Engineer*.

"I enjoy reading GRAPHITE and get considerable and valuable information therefrom."—W. A. POWERS, *Chief Chemist*, Atchison, Topeka and Santa Fé Railway System, Topeka, Kans.

"While there are other good pencils on the market, I believe that Dixon's—those I have used—are better, at least in some respects."—WERNER A. RICHTER, Hays, Kans.

"GRAPHITE is always a welcome visitor at our works and I always give it the 'once over' twice."—J. J. MCCOY, *Purchasing Agent*, Homer Brass Works, Philadelphia.

"I use Dixon's Pencils constantly. One stationer in Hartford, when he sees me coming, just reaches for his supply of Dixon's Operator Pencils No. 300."—M. W. NOURSE, c/o A. Pindar, Corporation.

Little flakes of graphite,

Little drops of paint

Make a lady's freckles

Look as though they ain't.

—With Apologies to the Original.

"I am obliged for the copy of Dixon's 'Useful Spanish Words and Phrases,' just received. It contains a good many more words than I had any idea it would. I enjoy consulting it often."—W. A. POWERS, *Chief Chemist*, Atchison, Topeka and Santa Fé Railway System, Topeka, Kans.

"Everyone is interested in reading GRAPHITE," says George Van Bruner, division superintendent at Pueblo of the California and Wyoming Railway Company. "We are glad to note that the problem of high cost of living has been solved. We would also appreciate a copy of the Dixon booklet, 'Useful Spanish Words and Phrases.'"

The library in the School of Commerce at Northwestern University is the largest school of its kind west of the Alleghany Mountains. Chicago business men as well as the students of the university consult the library of the School of Commerce for commercial, industrial and financial statistics. GRAPHITE, in bound volumes from 1910 may be found in the library of this School of Commerce and the school gladly welcomes those interested in the subject of graphite.

For the attention of those interested in electrotyping graphite, we recommend "Wet Graphite Perfected." It is well printed, descriptive of the A. R. Koehler Wet Graphite process and published by the Buffalo Electrotype Works. Several halftone illustrations printed from both electrotypes and engravings illustrate the little or no difference in the printing qualities of the originals and duplicates made by the Koehler Wet Graphite process. Many readers will, no doubt, remember the article upon this process that appeared in the May, 1913, issue of GRAPHITE.

## THE UNITED STATES OF AMERICA

The Richest Country and Safest Place on Earth

We read in the *Philadelphia Ledger* that English economists have declared that the wealth of the United States grows five billion dollars a year.

The official estimate of our national wealth three years ago exceeded \$187,000,000,000 and the total today must have passed beyond the two hundred billion point. These figures are colossal beyond compare. They mean \$2,000 of wealth for every inhabitant.

They represent more than double the wealth of the United Kingdom, our closest competitor, and they very nearly match the combined wealth of England, France and Germany.

The wealth of the United States is:

10 times that of Italy,

8 times that of Austria,

4 times that of France.

The leading European countries are now tearing at one another's vitals and destroying property much faster than they can create it.

All Europe today it actually moving backward, while the United States is sweeping swiftly forward.

Ours is the land of plenty, of peace and of opportunity. These three factors are aiding powerfully in persuading the individual investors of Europe to hold fast to their American securities, since here is the spot where their capital will be freest of perils and surest of winning a large reward.

## A WONDERFUL MACHINE

Our attention is called to an article in a New York paper in regard to the cash register. The public of course never takes pains to ascertain just what that machine represents. It may be news that 33,000 operations are necessary to put the machine together and that 5678 parts have been assembled to print the little receipt that the buyer receives from the man in charge, as well as a detailed strip for the owner, showing the individual transactions and the total amount received, charged on account or paid out.

The mechanical brain of this machine was originated in this country, developed by American genius and backed by unlimited capital until it went to work in every corner of the globe.

Today the plant producing the cash register covers seventy-four city blocks, and 8,000 skilled workmen in more than fifty trades are employed. The history of the cash register as developed by John H. Patterson is a most interesting one.

The development began thirty-three years ago, and Mr. Patterson's register today is working all over the globe and keeping tally for 284 different lines of industry.

To tell how the mechanism works or how the 33,000 operations are carried on with an accuracy of machine tools operating within 1/1000 of an inch of true dimensions, would take more space than we can allow.

ACCORDING to the *Electrical World*, an automatic signaling device has been patented which can be attached to ordinary telephone sets for sending in a fire alarm to the nearest fire headquarters, at the same time indicating the location of the party desiring protection.



### TERRACE PLAYGROUND, BUFFALO, N. Y.

The above illustrated iron fence is painted with Dixon's Silica-Graphite Paint. The paint was chosen by the Playground Commission because it gives the *longest service* and because it is attractive in appearance during that long term of service. It is apparent, therefore, that such a paint is both popular and economical. The user is saved the cost of labor and material and frequent repainting, which are necessary when inferior paints are used.

The city of Buffalo is famous for its thirteen playgrounds; its parks and drives; its childrens' field day; its pageant-parades; its municipal athletic organizations; its outdoor band concerts and its admirable slogan: "The Conservation of our Children." The Playground Commission is organized and it issues an annual report. The "Double Wand Drill" of the children on their field day is stirringly beautiful to see.

### BUSINESS ADDRESSES

**Business Communications Should be Addressed to the Company  
and not to Individuals**

It has happened frequently, in spite of instructions from the office of the Dixon Company, that branch managers of the Dixon Company or salesmen have addressed a business communication to some individual in the Dixon office. If that individual happened to be away and any delay was caused, then there was a howl concerning the delay. The Dixon Company has repeatedly cautioned its employés to the contrary, but whether from innate deviltry of the human mind, or because of some idea that the business communication will receive quicker attention if addressed to an individual, letters still come occasionally addressed to individuals instead of to the company.

There have been several occasions when we have been reminded by our friends on the outside that some of the departments in the Dixon office are up to the same tricks, and a very forceful communication coming to us from the president of a large and well known Southern company, reminds us that reform, as well as charity, should begin at home. We quote from his letter:

"Will you see that your mailing list is corrected so that communications are addressed to the company and not to individuals. This will prevent unnecessary delays, and it is in conformity with our rules that communications must be addressed to the company and not to individuals."

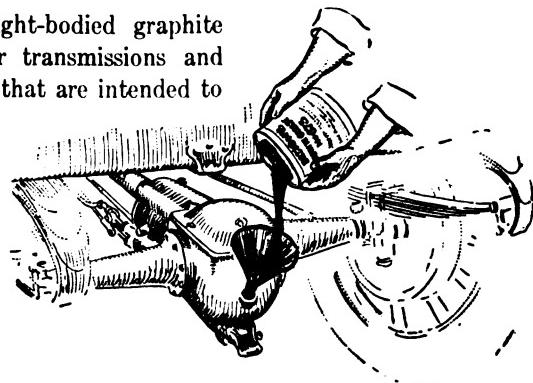
"There is no advantage to you in putting our purchasing agent's name on the envelope; in fact, it is liable to cause delay, and we would request that hereafter your envelopes be

addressed only to the name of our company. The purchasing agent will get his communications just as promptly and possibly more so."

The Dixon Company has notified all the heads of its several departments to stop addressing letters to individuals, and it again requests its branch managers and salesmen to send its communications addressed to the Dixon Company and not to individuals. On the communication itself it will be helpful if the words "Attention of Pencil Department," "Advertising Department," "Crucible Department," "Paint Department," "Shipping Department," or whatever other department's attention is called for.

### DIXON'S GRAPHITE GEAR OIL No. 675

A very light-bodied graphite lubricant for transmissions and differentials that are intended to be lubricated with a light oil. Due to the flake graphite in No. 675, it gives a much longer and better



service than is possible to a plain lubricant of the same density.

Sold in five and ten pound tins. Larger packages if desired.

### SUGAR

Few of us ever consider sugar as a salt, yet the *Louisiana Planter and Sugar Manufacturer* tells us "sugar is a deliquescent salt, and even refined sugars that have been melted down and filtered through bone-back filters will deliquesce in the presence of warmth and humidity . . . Sugar is one of those salts that have the property of attracting the moisture of the air. Just why this attraction of the moisture of the air should exist in sugar or in common salt or in other products, is one of the mysteries of Nature not yet definitely solved."

### KNOWS HIS ABK'S

A request for "Kolored Krayons" comes addressed to the  
"Josef Dixon Krusible Ko."

Is our Korrespondent Korrect in his ABK's or is it simplified spelling?

**ERASER ON TYPEWRITER**

**Little Rubber Disk Revolves by Pressure of the Hand**

Efficiency consists largely of simplifying and expediting the many little tasks and operations which we are called upon to do time and time again. Excepting the most proficient, all persons operating a typewriting machine are called upon to do considerable erasing, and an attachment by which this work is expedited has been recently designed to be mounted upon the frame of the machine in an unobtrusive manner and called



ERASER WHIRLED ON A FRICTION GEAR

into play when the occasion requires. The circular eraser, which is generally used, is mounted on a carrier, on which it revolves freely, this motion being actuated by a friction device. The rubber slides across the face of the machine and is so perfectly controlled that it can be brought to bear on the paper surface at any desired place; any letter or character may be obliterated quickly by the rapidly revolving rubber without affecting the adjoining character.

**SOME AUTOMOBILE FIGURES**

According to the *Scientific American* on June 1, 1915, there were

2,000,000 autos in the United States,	
8,000,000 people in daily enjoyment,	
1,000,000,000 rate of gallons of "gas" per year,	
20,000,000 gallons of oil per year,	
12,000,000 tires per year.	

Estimating cost per year:

1,000,000,000 gallons "gas,"	\$130,000,000
20,000,000 oil	8,000,000
12,000,000 tires	192,000,000
Accessories	100,000,000
Garage charges (short tour),	200,000,000
Repairs,	100,000,000

Total running expenses, \$730,000,000

Add thereto the value of the 600,000 new cars purchased during the year, at average price of \$750, or \$450,000,000, and we get the immense total of \$1,180,000,000 spent in a single year (1915), on the sport of motoring.

**DO IT NOW**

(Selected for "GRAPHITE" by J. H. Lewis, Manager of Southern District, Joseph Dixon Crucible Company)

If with pleasure you are viewing any work a man is doing,  
If you like him, or you love him tell him now.  
Don't withhold your approbation till the person makes oration,  
And he lies with snowy lilies o'er his brow;  
For no matter how you shout it he won't really care about it;  
He won't know how many teardrops you have shed;  
If you think some praise is due him, now's the time to slip it to  
him,  
For he cannot read his tombstone when he's dead.  
  
More than fame and more than money is the comment kind  
and sunny  
And the hearty, warm approval of a friend,  
For it gives to life a savor and it makes you stronger, braver,  
And it gives you heart and spirit to the end;  
If he earns your praise—bestow it; if you like him let him  
know it;  
Let the words of true encouragement be said;  
Do not wait till life is over and he's underneath the clover,  
For he cannot read his tombstone when he's dead.

**No Drip! No Waste!**

Summer heat melts common axle grease and the money you pay for it.

# DIXON'S

## Everlasting Graphite

# AXLE GREASE

stays "put" and lasts from two to five times longer. Write for sample No. 190-I.

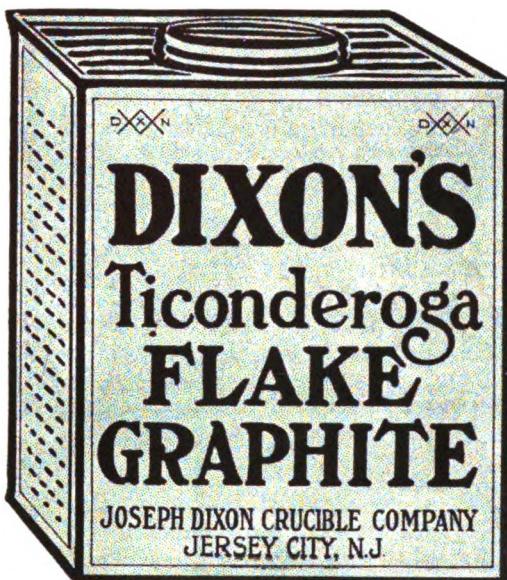
Made in Jersey City, N. J., by the

**Joseph Dixon Crucible Company**

ESTABLISHED 1827

I-18

# The “Teeth of Friction” can’t bite if you Lubricate with—



There's only one way to get perfect lubrication and that way is to eliminate the "teeth of friction," the minute imperfections which, in even the most highly finished bearing surfaces show, under a microscope, like hills and dales. Oil or plain grease are only transitory lubricants, subject to the whims of load, pressure, climatic and other conditions. Flake graphite, unlike oil or plain grease, is not squeezed out by pressure but is forced upon the tiny projections—"the teeth of friction"—the flakes become pinned and form over the surface a most marvelous veneer-like coating, unctuous and wonderfully smooth. Dixon's Flake Graphite will improve the efficiency of the oil or grease that you are using. Thousands of expert engineers all over the world have proven this to their satisfaction. Why not write for Sample No. 190-C and prove it to your own?

Made in Jersey City, N. J., by the  
**JOSEPH DIXON CRUCIBLE COMPANY**



Established 1827



C-69

# Graphite

September  
1915

SEP 8 - 1915  
LIBRARY OF MUSEUM

A SKYLAND TRAIL  
Drawn with Dixon's American Graphite Pencils  
Digitized by Google

ESTABLISHED 1827



INCORPORATED 1868



## JOSEPH DIXON CRUCIBLE CO.

JERSEY CITY, N. J., U. S. A.

**Miners, Importers and Manufacturers of Graphite,  
Plumbago, Black Lead.**

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### OFFICERS

*President*—GEORGE T. SMITH*Vice President*—GEORGE E. LONG*Secretary*—HARRY DAILEY*Treasurer*—J. H. SCHERMERHORN*Ass't Sec'y & Ass't Treas.*—ALBERT NORRIS

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GEORGE E. LONG

WILLIAM G. BUMSTED

EDWARD L. YOUNG

J. H. SCHERMERHORN

HARRY DAILEY

ROBT. E. JENNINGS

---

### OFFICES AND SALESROOMS

NEW YORK SALESROOM, 68 Reade Street

PHILADELPHIA SALESROOM, 1020 Arch Street

SAN FRANCISCO SALESROOM, 155 Second Street

CHICAGO BRANCH 1323 to 1327 Monadnock Block

BOSTON OFFICE, 347 John Hancock Building

PITTSBURGH OFFICE, Wabash Terminal Building

ST. LOUIS OFFICE, 501 Victoria Building

BALTIMORE OFFICE, 616 Professional Building

BUFFALO OFFICE, 72 Erie County Savings Bank Building

ATLANTA OFFICE, Fourth National Bank Building

### EUROPEAN AGENTS

Graphite Products, Ltd., 218-220 Queen's Road, Battersea, London

### SOUTH AMERICAN AGENT

For all Products Except Dixon's American Graphite Pencil

Alfredo J. Eichler, 666 Calle Cangallo, Buenos Aires, Argentine

### CUBAN AGENTS

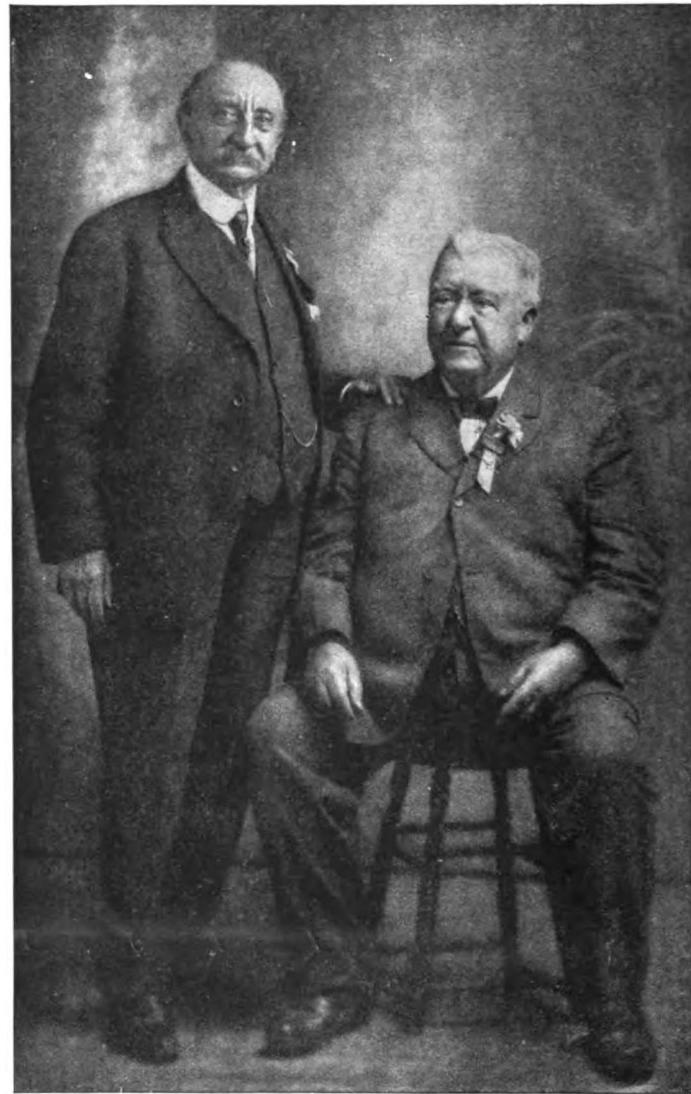
For all Products Except Dixon's American Graphite Pencils

William Croft, Room 424 Lonja del Comercio, Havana

### LATIN AMERICAN AGENTS

For Dixon's American Graphite Pencils, Etc.

National Paper and Type Company, 31-35 Burling Slip, New York

With Branch Agencies in Mexico, Cuba, Peru, Argentine,  
Uruguay, Venezuela, Porto Rico and Columbia

**"UNCLE GEORGE" OLNEY AND ARTHUR K. INGRAHAM, FROM  
PHOTOGRAPH TAKEN AT SPRINGFIELD CONVENTION, 1913**

### BECOMES OLDEST TRAVELING SALESMAN

Arthur K. Ingraham, seventy-eight years old and forty-five years a salesman in the employ of the Joseph Dixon Crucible Company, of Jersey City, N. J., received a long letter the other day from his friend, "Uncle George" Olney. In his letter "Uncle George" relinquished all claims to the title of Dean of Traveling Salesmen on account of his retirement over a year ago from active service with the Irving-Pitt Manufacturing Company of Brooklyn, N. Y.

In the photograph of these two veteran salesmen, taken at Springfield in 1913, at a convention of the National Association of Stationers, Mr. Ingraham is standing with his hand upon the shoulder of "Uncle George." The position was oddly prophetic, since Mr. Olney is now seated in retirement and has left Mr. Ingraham standing as successor to his title of oldest active "knight of the grip." Despite his erect bearing and look of mental keenness, Mr. Ingraham is two years the junior of his friend, and is still a booster for bigger and better sales in the New England territory of the Dixon Company. Mr. and Mrs. Ingraham celebrated their golden wedding anniversary at their home in Mt. Vernon, N. Y., seven years ago.

Mr. Olney officially "quit the road" in January, 1914, and in the following letter, which is probably the first ever written

from one to the other, despite a long period of friendship and a combined length of service of over one hundred and ten years, Mr. Olney officially resigns his deanship to Mr. Ingraham:

**Friend Ingraham:**—

It has been my intention for many a day to sit down and write you a letter and to tell you what I think of you, and of how happy I am when I think that I have had the pleasure of resigning the position of "Dean of Traveling Men" to place it in the hands of so worthy a representative. You now carry the banner and stand head and shoulders above them all. It is a proud record to hold, and one that I resigned with regret, but it had to come some time, and that time arrived. Younger blood must carry on the work at which my life has been spent.

It is a little remarkable that we two should have always been connected with the stationery trade, and though firm changes may have occurred, retained our acquaintance with the trade. I have seen changes, and many of them. I've seen clerks grow up from boys who are now at heads of houses, while all through it our associations have continued with the same firms and in the same or kindred lines. I have felt the loss of many old and valued friends in the trade who have passed away, while we are still here, hale and hearty, still fighting the battle of life.

My relations with the Dixon Company have always been of the most pleasant nature. My acquaintance with the individual members of the Dixon Company have been of most friendly character. I have known nearly every one more or less from Mr. Walker's entry until a few years ago. The travelers were all my friends and still are, at least I feel they are so, including yourself, and I regret we have not met more often.

I have the photo taken when you and I are shown at our best, with notice from the press, and I value it highly.

I have just passed my four-score years, and shall cry a halt until you come up to me in age, and then we will travel life's journey together until the end, still extending the right hand of fellowship in the warm grasp of the grip which means so much in this life.

I hope to meet you again and spend a little time of an evening, when we may live again some of the bright spots in our life.

I spend my time in reading, fishing, baseball and movies, and when I have time I sleep. My health is good and hope that yours is as good as mine, and if you come to New York I wish you would call me up on the phone and, if possible, will come over and see you.

Wishing you every good thing in life, and that you may have many years to hold the title of Deanship, I remain,

Most truly yours,

(Signed) GEO. A. OLNEY.

Irving-Pitt Manufacturing Company, Brooklyn, N. Y.

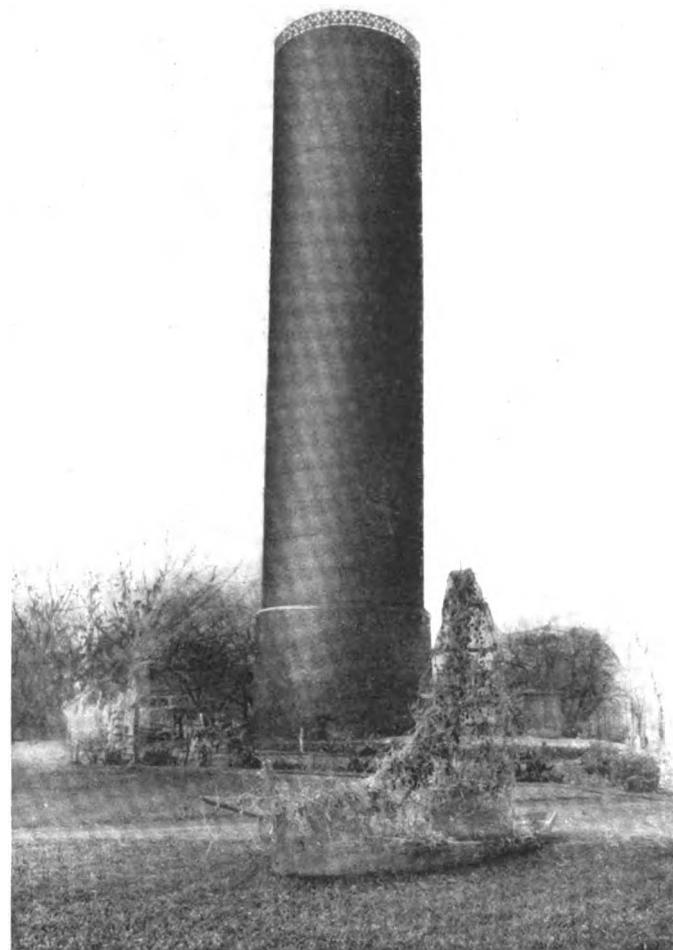
June 13, 1915.

#### SATISFIED WITH DIXON'S BOILER GRAPHITE

PHILADELPHIA, January 23, 1915.

**GENTLEMEN:**—We have been using Dixon's Boiler Graphite No. 2 for about two and a half years and find it satisfactory as a boiler scale preventive. Yours truly,

HALE AND KILBURN COMPANY  
H. L. BEYER, Purchasing Agent.



**STANDPIPE, MARION WATER COMPANY,  
MARION, OHIO**

The Joseph Dixon Crucible Company extends its congratulations to the members attending the Annual Convention of the New England Water Works Association, meeting at the Waldorf-Astoria, New York City, September 7-8-9, 1915.

The standardization of supplies in the water works field is of high importance, and this convention will doubtless bear important fruit.

The Dixon Company has for fifty years contributed to water works' efficiency by its various graphite supplies, particularly its famous Silica-Graphite Paint, Boiler Graphite, Pipe Joint Compound, Graphite Greases, etc.

We pride ourselves on the "lowest yearly economy," or in other words, the Longest Service of our graphite products, which are used world-wide among water works and kindred concerns.

The artistic standpipe, above illustrated, was painted with white lead which gave only two years' service. It was painted inside and outside, with Dixon's Silica-Graphite Paint in 1902, and again in 1907. Examination in 1915 shows that the eight years' of service has been very satisfactory and of unrivaled economy. Dixon's Silica-Graphite Paint still protects the standpipe and repainting is not necessary.

The Dixon Company will be glad to send booklet entitled, "Standpipe Painting" to anyone interested in paint efficiency and economy.

# SCHOOL MEN

OF THE  
**JOSEPH DIXON**  
CRUCIBLE COMPANY.  
Jersey City, N.J.



-who pencil-ize  
the public and  
private schools  
of the country

## SCHOOL MEN OF THE JOSEPH DIXON CRUCIBLE COMPANY

*"If you can tell a better story, paint a better picture or make a better mouse trap than anybody else, though you live in the middle of the wilderness, people will make a beaten pathway to your door."*

—Elbert Hubbard

In order to satisfy a great public and private school demand, it is easily conceivable that pencils must be "made a little better than seems necessary." That, however, is being done. Modesty forbids GRAPHITE to say more than that such pencils are being "Made in Jersey City, N. J."

Upon the opposite page, GRAPHITE presents one of the potent reasons for the popularity of Dixon Pencils throughout the public and private school systems of the United States. In the top center of this group is the "Daddy" of the School Department. George Howard Reed began to build the sale of Dixon's School Pencils and Crayons just nineteen years ago. At that time he had little else than a desk and a few thoughts, but the latter were valuable. The scope of his work increased little by little until finally he had mapped out in his mind the school pencil needs of every town, hamlet, city and county in the United States. He now has it all mapped out upon index cards. His personal acquaintance with teachers, school superintendents and members of the educational boards grew so alarmingly fast and great that the alternative to carrying a condensed Bertillon System and pocket guide of names was to curtail his itinerary of the United States. Mr. Reed now confines his personal attention to New York City and vicinity. As the school business of the Dixon Company began to grow so did the School Department, until today in addition to the men whose features appear upon the opposite page, there are many besides who either devote a small part of their time to school pencil sales work or all of their time in recording, statistical, stenographic and clerical work. This growth in personnel is reflected in the growth of school products. Nineteen years ago only seven colors of crayons were made and these chiefly for commercial and marking purposes. Today the School Department disposes of twenty-four colors, all of which are needed to complete the chromatic scale. Aside from his Dixon associates, Mr. Reed has always had many others whom he has always felt free to call upon for advice, and it is largely due to his wise intimacy with school authorities that Dixon School Pencils are based upon almost scientific construction. Each particular school pencil is made to serve some particular purpose. Goods can't be any better than the character of the men who produce them, but this need not worry those who know the genial "Daddy" of the School Department.

Aside from his duties as manager of the St. Louis sales district for the Dixon Company, Mr. H. A. Van Derslice devotes much of his time and efforts to school work in the larger cities of his territory. Since the St. Louis sales district of the Dixon Company extends from the eastern part of Tennessee to Colorado and down to Mexico, it is apparent that Mr. Van Derslice possesses able assistants in order to cover, as he does, one of the three largest districts of the Dixon Company and to steadily increase, as he does, the school sales of Dixon's Pencils. Mr. Van Derslice finds time to attend many of the school conventions, realizing the value of not only keeping in touch with school people but in assimilating the new thoughts and theories advanced and discussed at such conventions.

Mr. Horace Van Dorn, Junior (Van symbolizes his moving spirit), found, after two years of school work in the metropolitan district of the Dixon Company, that his services were needed more in the New England district, hence his removal to the Hub of the Universe and the educational center of America. Since the time of transplanting, this earnest exponent of better educational implements has thrived upon the new soil. His work includes that of visiting the great number of private schools for which New England is noted.

All of schooldom in the eastern part of Pennsylvania knows of John J. Leckie. He is everywhere and always welcome. Nothing that can help to build the sales of Dixon Pencils escapes his attention. If a new piece of printed matter is contemplated this busy Dixonite is full of suggestions and ideas of how to write and display it. And it generally "gets across with a punch." John J. Leckie is in charge of the School Department of the Philadelphia district of the Dixon Company, but associated with him is Mr. A. J. Pfaff, who looks after the Dixon interests of Western Pennsylvania. These school men form a team of salesmen that for action, speed and hustle is difficult to pass in the race for school business. The large school sales of the Philadelphia district are steadily increased each year by these two very capable Dixonites.

No school superintendent in New York and Ohio and in the province of Ontario, who reads this issue of GRAPHITE, will fail to recognize the photographic reproduction of Mr. C. M. Harding, whose connection with the Dixon Company has been for a longer period than any of his associates in the School Department. While for a number of years with the Chicago office Mr. Harding originated and planned the system for handling the school business as it is now conducted in that territory. To his present territory he carried the same ideas and the gain in school business in New York, Ohio and Ontario is due to his systematic and careful attention. Mr. Harding possesses what may be called a national acquaintance with school superintendents, since he is known by them from one end of the country to the other.

To keep in touch with every school teacher, superintendent and board of education in North and South Dakota, Nebraska, Minnesota, Iowa, Wisconsin, Michigan, and half of Illinois and Indiana requires a wide awake man. Such a man is Horace Johnson of the Chicago office of the Dixon Company. Mr. Johnson's leisure moments are few and far between, for his personal attention is required here, there and everywhere in the vast territory he successfully manages to cover. If it were not for his able and energetic assistants in the Monadnock Block office, Mr. Johnson admits that things might go astray with him.

Eastern "knights of the grip" have it comparatively easy with Mr. Charles Wehn, whose stops are in many cases more than a Sabbath day's journey apart. His territory includes all the Pacific and Rocky Mountain States, which extend from Mexico to British Columbia and include the territory of Hawaii. Naturally many of his visits occur but once or twice a year and at those times the foundation for school contracts must be laid. Due to Mr. Wehn's efforts GRAPHITE presents this month, upon its cover, "A Skyland Trail," from a drawing by Miss L. A. Howard, supervisor of drawing and vice principal of the Santa Cruz High School, Santa Cruz, California.

# *Every Child a Specialist*

We were preparing to leave, when a boy slipped from his seat and whispered something to his teacher.

"The children want you to hear Frank play his violin, before you go," said Miss Leonard. "Will you not stay a little longer?"

The superintendent and I stayed.

Frank went to the closet (in just such a closet my teachers used to keep all the things they took away from us) and brought out his violin. While he was tuning it I had a chance to study the children. How eager they were! What delightful anticipation, what confidence, what pride, irradiated every face! They knew Frank would do well. They knew he would surprise and charm us with his playing.

Frank was small for his age and lame; but there was nothing weak or halting in his handling of that violin. He played as a brown thrasher sings at four in the morning! When he finished we rattled the windows with our clapping, until he played again.

"Have you any more specialists like that?" I asked.

"Not like that," replied Miss Leonard with a smile; "but all my children are specialists."

The remark struck me as novel. "All specialists?" I asked. "Have you somebody to sing for us?"

Before Miss Leonard could reply, I had discovered the singer, for half the children had looked towards her with congratulations written large upon their faces.

Mary sang for us. Then Max told us a comic story, Helen recited the "Chambered Nautilus," and Peter turned a handspring and stood on his head. Meanwhile Louis had been drawing a prancing horse for us on the blackboard.

We were all in fine spirits.

"What's the specialty of that boy in the back-corner seat?"

I murmured. That boy was one of those lank youths of fifteen, ashamed of their height, who usually acquire such nicknames as "Lengthy" and "String" and "Slat."

"Sam?" inquired Miss Leonard; "Sam is our specialist in height. Sam, will you please open that back window a little more at the top? It is getting rather close here."

Sam gathered his feet into the aisle, and straightened himself up to his full height. He hooked his left hand over the top of the upper sash and pulled it down without the slightest apparent effort.

"Thank you, Sam," said Miss Leonard, and added, under her breath, "The children are all quite proud of him, there's nothing he cannot reach!"

"You seem to be a specialist in discovering specialists," I remarked.

"Yes, perhaps. It's been my salvation. Our work in drawing always stands high, because I cannot draw! Louis is literally my right hand man. We give the drawing lessons. I talk and he illustrates every stage, large size, before the class. He cannot speak good English yet, but the children just about worship him. And so do I!" added Miss Leonard.

How I envy such a teacher!

Is there any satisfaction in all the world equal to that of starting boys and girls right? To their dying day, and perchance afterward, those happy spirits will remember and bless the memory of Myrtie Leonard, the sweet woman who understood and appreciated and made men and women of them.

But the point I want to make at this moment is this: After visiting an average of four hundred schools a year for eighteen years, I feel qualified to affirm with confidence that there is not a school of thirty children in the United States where a child could not be found, capable of being the teacher's right hand in drawing.

Do you think, O Teacher-who-cannot draw, that you would lose caste with your pupils by admitting it? My dear friend, they know it already. You can't fool children. Do they think any less of you because you cannot turn a handspring? They think more of you because you acknowledge that fact. If you are honest with them, and love them, they will like you anyhow, and do anything in the world

for you. If they can beat you in spelling and write better, and figure more quickly, and sing more sweetly, and draw more correctly, and color more beautifully,—and you admit it, and are thankful that your children are smarter than you are, they will exult in having the best teacher in town.

Of course, if you are employed as a specialist, to teach French, or singing, or drawing you should know your art.

But a grade teacher cannot be expected to do everything even if she is expected to teach everything. Therefore, she should utilize all the brains she has at her disposal.

Find your best right hand, O Teacher-who-cannot-draw, and begin at once to use it in the fall nature drawing.

—Written by HENRY TURNER BAILEY for the *School Arts Magazine*.

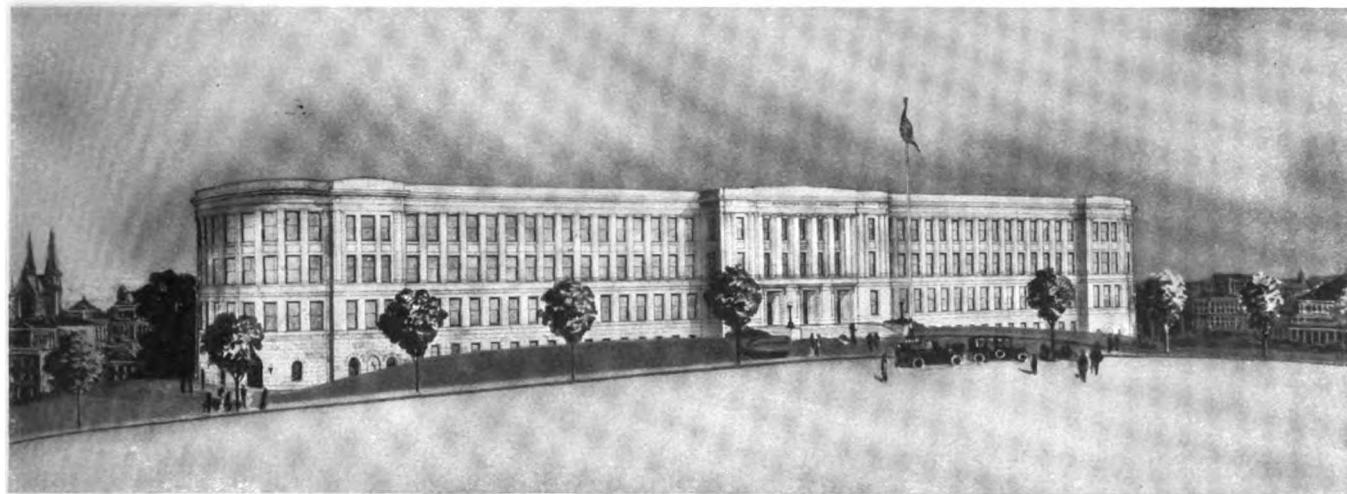
Play ?  
Five  
Hundred

Then don't delay the game by asking about suit values—buy a Dixon's Five Hundred Pencil. The suit values are stamped upon it in gold.



Delicate blue finish; full seven inch length; hexagon shape; sharpened; deep, rich, black lead. Ask your stationer for a score card, too! 5cts.





**SCHENLEY HIGH SCHOOL BUILDING,  
PITTSBURGH, PA.**

Steel Work Painted with Dixon's Silica-Graphite Paint. Plumbing and Heating Connections Used Dixon's Pipe Joint Compound

MR. EDWARD STOTZ, Architect    W. N. SAUER PLUMBING CO.,  
*Plumbing Contractors*

THOMPSON-STARRETT CO., *Steel and General Contractors*

HANLEY-CASEY CO., *Ventilating Contractors*

CRAIG ELECTRIC COMPANY, *Electrical Contractors*

This new \$1,000,000 high school building, situated on Center and Bellefield Avenues and Grant Boulevard, is one of the finest structures of its kind, and a monument to the policy of the Pittsburgh Board of Education. It accommodates 600 pupils, as many as the ordinary university.

There is no city in the United States and hardly a city in Central or South America, where Dixon's Silica-Graphite Paint is not used on the steel work of the most prominent buildings. Architects, engineers, owners and contractors specify and use it for economy and durability. It is manifestly a ridiculous policy to use an inferior paint on a superior building.

In foreign countries as well Dixon's Silica-Graphite Paint is looked upon by many as the "One and Only Paint" to specify and use for all construction and maintenance painting of steel work.

When you see a fine, modern building, remember that on the steel skeleton Dixon's Silica-Graphite Paint is or should have been used.

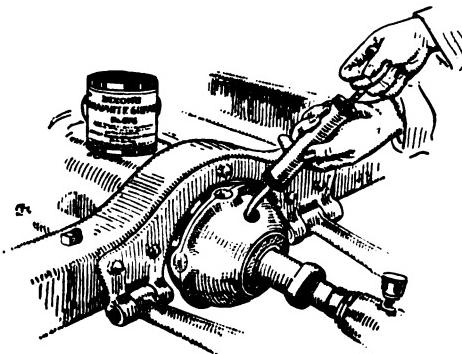
**PENCIL THE PIONEER**

The pencil approaches nearest to nature in recording the thoughts of man. From mountain and desert and from the loneliest spots on earth scientists and explorers have sent messages to civilization—thoughts upon discovery and of enlightenment and of failure and confession—thoughts that might never have reached their destination without such humble aid as that of the pencil. The pen may transcribe the pioneer work of the pencil and the keys of a typewriter may add to each thought a finished touch, but neither approaches so close to nature as does the pencil.

Once more cupid has scored a victory in the Dixon office and a diamond glitters on the finger of a Dixon girl and a Dixon man is made happy.—Selah.

**DIXON'S GRAPHITE HEAT-RESISTING  
GREASE No. 676**

This special grease possesses great heat-resisting properties. It is especially well adapted for universal joints, water pump



cups, overhead valve cups and clutch thrust collars. It positively will not melt and run out. This grease should *not* be used on gears.

Sold in one, five and ten pound tins. Larger packages if desired.

OPERATORS of electric power machinery are interested in the subject of commutation and are fully aware of its importance in the electrical field. A large percentage of breakdowns in the present day motor or generator must be charged against improper operation of commutator and brushes. Graphite brushes are designed and marketed with the express purpose of reducing commutator troubles to a minimum. A booklet, "Dixon's Graphite Brushes," explains how the characteristic lubricating qualities of graphite are utilized to this end. The entire booklet is recommended to your careful consideration, especially page 3, where the advantages of graphite over carbon as a brush material are clearly set forth. An electrical service department for the solution of brush problems invites detailed statements and will advise whether Dixon's Brushes are adapted to the stated operating conditions. Frequently trial orders have made enthusiastic supporters of graphite brushes. A copy of the booklet may be obtained free upon request.

"I have been reading GRAPHITE regularly and I believe it is the best little book on lubrication that is on the market."

—W. G. CARPENTER, Central Garage, Hyndman, Pa.



### STANDPIPES IN MEXICO

The accompanying illustrations show standpipes which were painted this year in Mexico with Dixon's Silica-Graphite Paint, by the United States Rigging Company of Sebago Lake, Maine, under the direction of Mr. H. M. Chaplin.

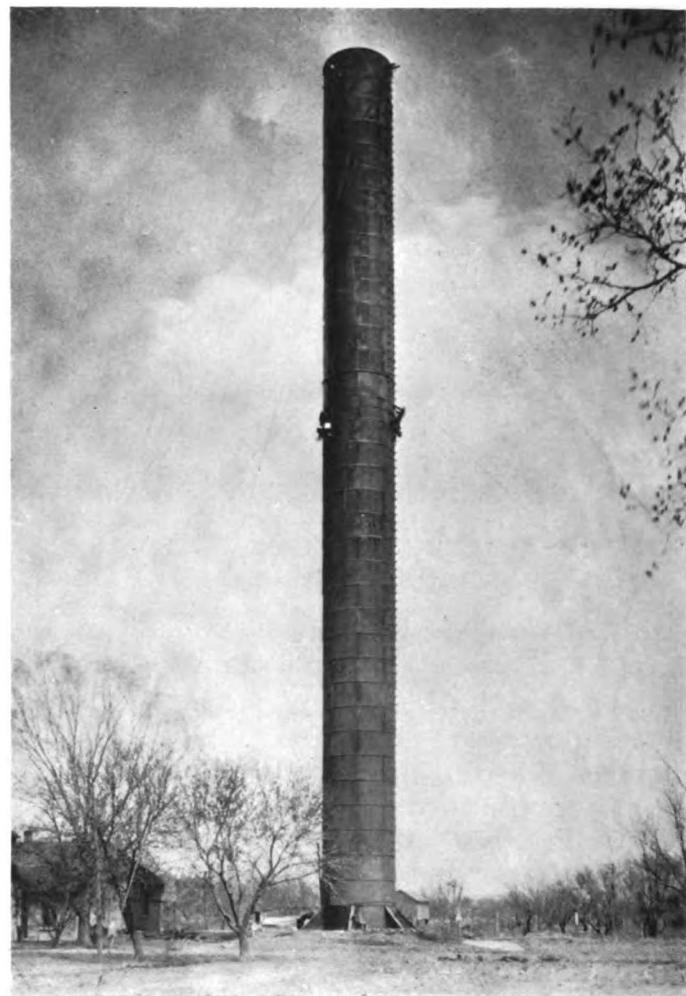
The illustration which includes the young ladies in the foreground, situated at San Rosalia, is 140 feet high, and twenty feet in diameter. This was painted, inside and outside, with two coats of Dixon's Silica-Graphite Paint.

The other view shows a water tower at San Luis Potosi, north of Mexico City. This tower is 180 feet high with a diameter of eighteen feet six inches. It is supplied by a large number of windmills and used for watering cattle. This tower, both inside and outside, was also painted with two coats of Dixon's Silica-Graphite Paint.

Unaffected by extreme atmospheric conditions, either by the heat of the tropics, or the cold sleet storms of the north, Dixon's Silica-Graphite Paint makes an ideal protection for standpipes in all countries. It forms a sure protector against the detrimental effects of water, weather, chemical fumes, abrasion and corrosion. Many large standpipes supplying water for hundreds of thousands are fitting monuments of its superior service.

"**THERE** are men of patience, persistence, power. They invent, devise, originate, economize, and always and forever they work. And it is this capacity for work—the ability to bear burdens—that has brought about their promotion."

—*The Philistine.*



### BALL AND ROLLER BEARINGS BOOKLET

In the last issue of GRAPHITE we announced that we would begin in this issue the publication of a treatise upon the use and abuse of ball and roller bearings by F. J. Jarosch, Chief Engineer of the Bearings Company of America. Unfortunately we are unable to fulfill this promise and any expectations which our readers may have, because of the fact that the necessary printing plates are being used to print the booklet which we also promised. In addition, we said that this should be a school number of GRAPHITE and the School Department would surely expel us from its class of honor if we omitted any of the material offered to our school friends in this issue of GRAPHITE.

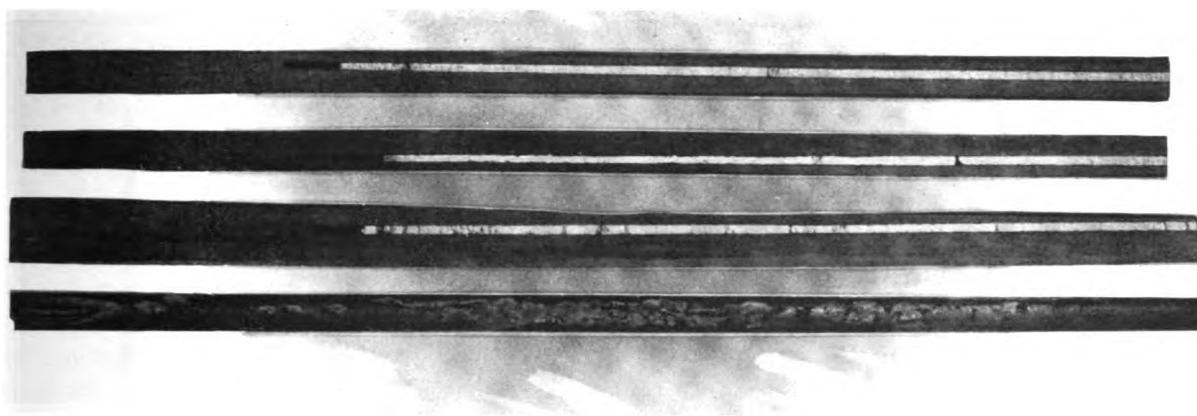
A CELEBRATED doctor has said:

"My method in life is the freshest, oldest, simplest and usefulness. Forget the past, forget the future. Touch a button that will shut off the past and another that will shut off the future, and you will have a vaccine that will insure you against all morbid thoughts."

"When the load of tomorrow is added to the load of yesterday, many men fall on the way."

"Many would rather sing over and over again psalms for the sins of the past. The day of man's salvation is today. Live earnestly. Make the limit of your life the twenty-four hours of the day."

"The control of the mind as a working machine is the end of all education. This can be accomplished with deliberation."



### EXAMPLES OF EARLY PENCIL MAKING

How much would you pay for one of the pencils reproduced in this group? Today, these pencils would not be worth your attention, but when the process of pencil making began with the discovery of the celebrated English mine at Borrowdale, in Cumberland, England, the chances are that at that time you would have been glad to get a pencil at almost any price. The first pencil created great excitement. Its introduction caused a great furore in England. The graphite mines of that country were considered of unestimatable value and were protected by law.

It is fortunate that the pencil users of today are not forced to rely upon such specimens of early pencil making. To compare with such pencils, a Dixon's Anglo-Saxon or a Dixon Eldorado would be like comparing Old Ironsides with the newest superdreadnaught. The crooked, broken and square-shaped leads and the rough-shaped case can hardly be said to resemble the straight, smooth, tough, evenly graded leads and the straight-grained cedar cases of Dixon's Anglo-Saxon Pencils, made as they are in both round and hexagon shapes; green, yellow and purple finishes; four degrees of hardness, stamped in silver with gilt tips and red erasive rubbers.

The pencils reproduced are from the collection of Mr. Richard Van Dien, who, for thirty five years, has gathered from many sources rare and unusual specimens of writing and marking materials.

### FISHING FOR WHAT?

A tourist was just walking out of the hotel when he saw an aged villager sitting on the garden wall, solemnly holding a line and rod over the flower bed as if he was fishing.

Asking the manager of the place what was the matter with the poor man, he was told that he was "just a bit soft."

After watching the motionless figure for some time, the tourist went up to him and asked:

"What are you doing?"

"Fishing," was the solemn reply.

The stranger then asked the fisherman to come and have a drink. Over the two glasses he sought to solve the mystery.

"So you were fishing," he said presently. "Have you caught many this morning?"

"Yes," replied the old man, placidly. "You're the sixth."

### LEARN SPANISH

The young man, whether he is a college graduate or not, who expects to enter commercial life should avail himself of the many present opportunities of learning to read, write and speak the Spanish language.

The *New York Globe* in an editorial on the matter says:

"Principals and graduating class teachers in elementary schools in particular and city educators in general, will be interested to know of the steady growth in the high schools of the interest in the study of Spanish, as shown by the increase in the number of students taking up the language from choice.

"Where opportunity offers, teachers might do well to inform members of the graduating classes in elementary schools that in many of the city high schools it is now possible to begin Spanish in the first term, instead of waiting until they have completed a year of some other foreign language.

"This is true in academic as well as commercial high schools of the city.

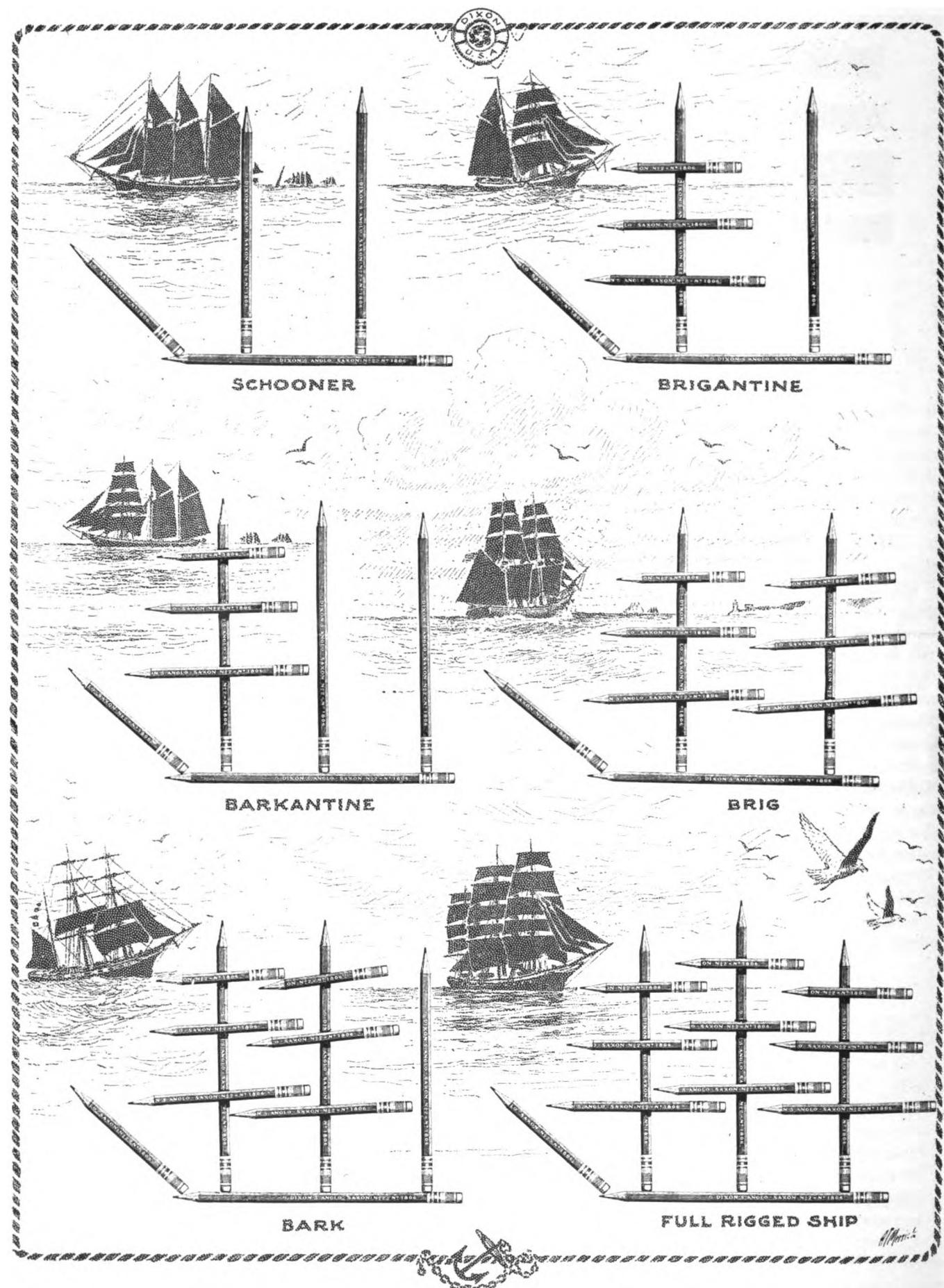
"In every one of the evening high schools Spanish classes are found. In fact, that language in most of these schools outstrips by far the other foreign languages in the matter of numbers. This would seem to indicate that Spanish is esteemed very highly for its practical value, since most of the evening school students are business people and pursue courses to aid them in business life.

"President Butler of Columbia University said in part in his last annual report: 'It will not be possible for the people of the United States to enter into close relation with the peoples of the other American republics until the Spanish language is more generally spoken and written.'"

During the past few months the Dixon Company has distributed among the various schools in New York City over 3,000 copies of its little Spanish pamphlet entitled, "Useful Spanish Words and Phrases."

This pamphlet is considered quite a little ahead of anything of the kind ever gotten out by any one, and a thorough knowledge of its contents, which can easily be acquired, will prove exceedingly useful to the traveler.

In our next edition we probably will incorporate many commercial phrases. At the present time all the words and phrases are those of every day need and use.



**SHIP SAILS AND PENCIL SALES**

An Interesting Pictorial Simile

Cover the names and identify the various types of sailing vessels depicted upon the drawing opposite and you will have proven that you are not a landlubber! The skeleton arrangement of Dixon's Anglo-Saxon Pencils is a simplification of construction that should aid shore mates in memorizing the appearance of sailing vessels.

There is as great a difference in pencils as in ships. The type of pencil that sails smoothly and easily over paper must be built as carefully, with as great a degree of care in the selection of material and by the same skilled workmanship that designs and produces a racing yacht. Otherwise its sales will not catch the trade wind. Ships of business equipped with Anglo-Saxon, Eldorado, Cabinet, Eterno Copying, Order Book, Stenographer and other Dixon Pencils clear, among the smaller reefs of annoyance, those caused by the use of inferior pencils.

**PENCIL QUALITY**

A school board in a town once discussed the problem of pencils for classroom purposes. The superintendent had recommended that certain pencils be adopted as "standard" and the question was before the board for consideration and ratification.

It wasn't long, of course, before one school board member bluntly asked the question: "What's the price of these pencils?" A long silence filled the room. Then the member whose life motto was "quality," spoke up:

"Gentlemen, in fifty years of business experience, I have learned the lesson that price is not the first consideration in a question of this character, but rather quality. Let's break every one of these pencils and study the quality.

"Thousands of times I've damned every lead pencil. In years gone by, when I wanted it to work, it wouldn't work. Bingo! the lead used to break every time I dotted an "i" until a friend of mine taught me a lesson.

"This friend said, "Jim, why don't you find a pencil of suitable quality to you personally, and then stick by it. Test your own quality theories and see what happens."

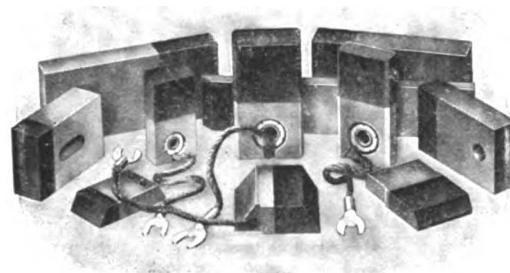
"Well, I stopped buying pencils from beggars on a charity basis and stationers on a price basis and settled down to this pencil I now have in my pocket. This selfsame pencil I have used for years and it's the best of the hundreds on the market.

"I move you, Mr. President, that we adopt the Dixon Pencil because I've used it for five years and I know the quality. The price is not low, but look what you get for your money,—wood, graphite and finish considered."

The above is a rather graphic account of an actual happening in a certain town of the U. S. A. The motion carried and a certain Dixon Pencil is in use.

**SAVES THREE QUARTERS OF HIS AXLE GREASE BILL**

"For the last ten years I have bought Dixon's Axle Grease and I cannot recommend it too highly. For over twenty years in business, I have never used another grease half so good. I greased my wagons every week before I used Dixon's Axle Grease, now I grease them only once a month."—S. PREEN of S. & C. G. Preen Liverys, 21 Division Place, Newark, N. J.

**Get that rich, dark brown color on your commutators!**

It means good lubrication, plus perfect commutation. Applied lubrication is unnecessary; friction losses are reduced to a minimum, and sparking, squeaking and chattering become but memories of the past when you use

**DIXON'S  
GRAPHITE  
BRUSHES**

Exceptional conditions need not prevent a better solution of your brush problems. Put it up to our Electrical Service Department. It furnishes free, frank and unbiased recommendations based upon your own detailed statement, and our experience of fifteen years with graphite as a brush material. Write for booklet and data sheets, No. 190-M.

Made in Jersey City, N. J., by the  
**Joseph Dixon Crucible Co.**  
Established 1827

THESE ARE  
**THE "BIG SIX" PENCILS**  
IN SCHOOLDOM



DIXON'S BEGINNERS No. 308

No. 308. The size of Dixon's Beginners helps to overcome the "cramped finger" habit of first grade children and to develop an easy, rapid writing hand. Unusually large diameter of both lead and wood, black polished and stamped in silver.



DIXON'S SPECIAL BLACK N° 312

No. 312. For second grades, Dixon's Special Black is the natural step from the large Beginners pencil to the ordinary size pencil used in after years. The large diameter and lead of Dixon's Special Black is just right for this transition period. Yellow finish, stamped in gold.



DIXON'S HIGH SCHOOL SM 981

Thereafter, Dixon's High School, of ordinary diameter but of extraordinary quality, is the choice of teacher and pupil alike. Smooth, tough lead that makes an intensely black line without smudging. Trade Nos. 980 (S), 981 (SM), 982 (MB), 983 (M), 984 (MH), 985 (H), 986 (VH).



DIXON'S METROPOLITAN N° 2 - N° 739

Dixon's Metropolitan Pencil is widely used for school work above the second grade. It is low priced; stamped in gold; made in round and hexagon shapes; maroon, satin and cedar finishes and in four degrees of hardness.



DIXON'S MODERN WRITING N° 2 - N° 1220

Dixon's Modern Writing is another popular school favorite. Round shape, finished in dark green and stamped in gold. Made in No. 1 (1219), No. 2 (1220), No. 3 (1221) and No. 4 (1222) degrees of hardness.



DIXON'S STUDENT No.2

This is one of the family of Dixon's American Graphite Pencils, all of which are widely used in school work throughout the country.

Write for a copy of "Dixon's School Pencils for Writing" or "Colored Crayons in the School" or both.

Write for testing samples or specify these pencils by number upon your requisition.

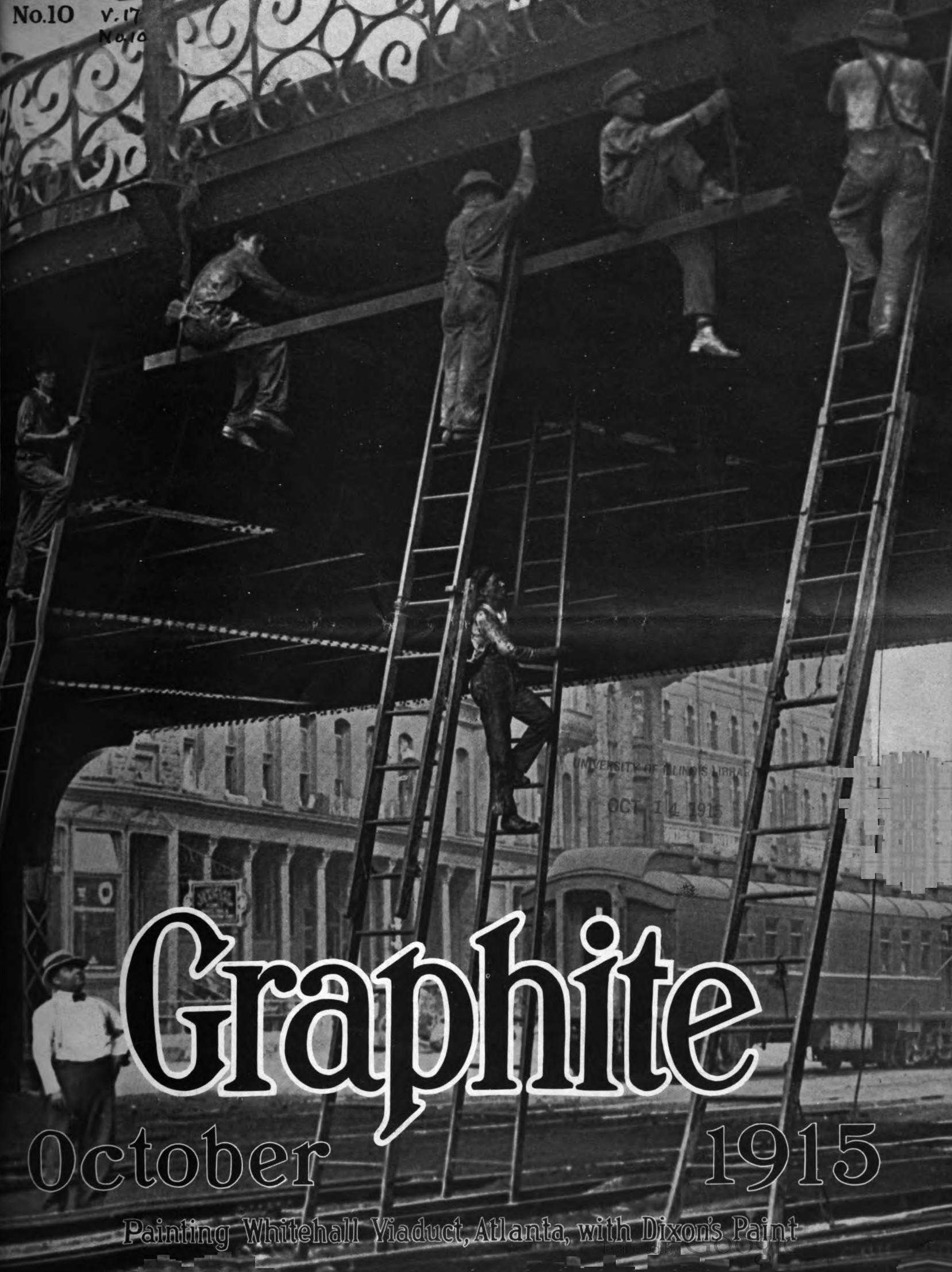
Made in JERSEY CITY, N. J., U. S. A., by the

**JOSEPH DIXON CRUCIBLE COMPANY**

ESTABLISHED 1827

No.10

v. 17  
No.10



# Graphite

October

1915

Painting Whitehall Viaduct, Atlanta, with Dixon's Paint

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ESTABLISHED 1827



INCORPORATED 1868



## JOSEPH DIXON CRUCIBLE CO.

JERSEY CITY, N. J., U. S. A.

**Miners, Importers and Manufacturers of Graphite,  
Plumbago, Black Lead.**

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ATLANTA OFFICE, 328 Peachtree Street

### EUROPEAN AGENTS

Graphite Products, Ltd., 218-220 Queen's Road, Battersea, London

### SOUTH AMERICAN AGENT

For all Products Except Dixon's American Graphite Pencils  
Alfredo J. Eichler, 666 Calle Cangallo, Buenos Aires, Argentine

### CUBAN AGENTS

For all Products Except Dixon's American Graphite Pencils

William Croft, Room 424 Lonja del Comercio, Havana

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# GRAPHITIZED

### A Column of Paragraphites and Dixonized Happenings

If a Dixon Lead Pencil were sent to war, would Graphite? No! But Cedar Wood.

"We expect to have our accessory catalog ready before November 1, and we do not believe it would be complete without Dixon's Graphite Automobile Lubricants."

"I have used Dixon's Flake Graphite and Dixon's No. 677 Graphite Grease for transmissions for many years, and I still intend to use them, for I have derived good results."—P. ALEX POCHE, Central Agramonte, Florida, Cameguey, Cuba.

Don't let the balky lock tongue of a door get your goat. If you don't happen to have some Dixon's Flake Graphite take your Dixon Pencil and rub the graphite point over the tongue and smoother action will follow.

Mr. J. L. Davidson of the Interstate Lumber Company, Quitman, Ga., believes in keeping boilers free from scale. Under date of May 12 Mr. Davidson writes: "I have been using Dixon's Boiler Graphite for some time and we are getting excellent results. We are giving your salesman an order for a barrel today." This paragraph contains a hint to lumber companies and others who would make sure of boiler efficiency.

You have heard of "butt" pencils, very likely. But you have perhaps never heard of one which was said to be of such a nature as to "last forever." Well, such a pencil has been written into history up Worcester way. It is so long—two inches or so—that it requires the joint ownership of two clerks in the Worcester Post Office, it seems, and its reputation for longevity may be said to be borne out to some extent by the testimony that it has not been sharpened for some two and a half years.

"About three weeks ago I came across a Dixon advertisement in one of the trade papers, describing the merits of Dixon's Grease No. 677 for transmissions and differentials. I decided to try it out. It took about fifteen pounds to fill the various gear cases, etc. I do not hesitate to say the car runs 100% better, there is less noise; no dripping of oil, and a marked improvement all through since replacing the best oils and greases I could buy with Dixon's Grease No. 677."—MAHLON H. DICKINSON, Architect, 703 Empire Building, Philadelphia, Pa.

It is good to have friends who feel kindly towards your efforts and this, crowded in upon an order from an old customer, certainly helped some:

"I am always pleased to sell the Dixon goods, feeling that in doing so, I am putting out a first class article that will surely give satisfaction. I am pleased also to note the increasing demand you are creating for them. You have sent me several inquiries lately from parties near here, for which I thank you. I always like to answer such."

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### REAL DIFFERENCE

"Pop, what's a monologue?"

"A monologue is a conversation between husband and wife."

"I thought that was a dialogue?"

"No, a dialogue is where two persons are speaking."



### DISPLAY OF DIXON'S GRAPHITE AUTOMOBILE LUBRICANTS

In Window of John & Arthur, Boston, Mass.

The accompanying illustration shows an interesting display of Dixon's Graphite Automobile Lubricants in the supply store of John & Arthur, Motor Accessories, Inc., Boston, Mass.

The exhibit includes half-tone pictures of prominent racing drivers, a group of famous men which is particularly appropriate to have appear at this time in connection with the five-hundred mile race at Indianapolis. All these daring drivers insist upon using Dixon's Graphite Automobile Lubricants in their cars. Their exclusive specification has been the result of careful tests, for in this thrilling racing game in which speed and safety are such important factors, everything possible is sought to reach perfection in lubrication. An effective background for these pictures is a well arranged display of Dixon Greases.

Aside from the general interest that such a window creates, it is valuable for owners of supply stores to keep in mind that a display of Dixon's Lubricants from time to time will largely strengthen their business through an increased sale of Dixon's Products, and a continued increase in satisfied customers that go where Dixon Lubricants are sold.

### WAR PRISONER USES SAND AS LUBRICANT

*Odd Attempt to Fire Load of Straw by Causing Hotbox*

In a recent issue of the *Berliner Tageblatt*, an incident is related of a young French prisoner of war, who nearly caused some German soldiers at the front to go without a change of bedding. The Frenchman with other prisoners was employed in loading straw at Baireuth into freight cars destined for the war front. One of the supervising German officers saw the prisoner reach down to the ground and then begin fumbling at the axle of the freight car. Upon being challenged, the prisoner darted under the car followed closely by the guard who arrested him. Subsequently it was charged that the prisoner had put sand in several oil cups of the car axles in order to cause fire by means of a hotbox in the course of the car's journey. The prisoner himself insisted that he had merely intended to take a little oil out of the axle boxes in order to polish his boots with.

Whether long confinement had served to sharpen the wits of this prisoner or thoughts of the greater friction between his country and that of his captors, furnished the inspiration for his action, it at any rate illustrated the importance of lubrication even in war times. Incidentally it distinguished the difference between graphite and sand as lubricants.

"I AM unaware of anything that has a right to be called an impossibility."—THOMAS B. HUXLEY.

"THE ornaments of a house are the friends that frequent it."  
—RALPH WALDO EMERSON.

**"HINTS FOR AMERICAN EXPORTERS"****Value of a Knowledge of Foreign Languages**

In an article under the above title in the *Engineering Magazine* for August, 1915, Mr. Frederic Schreibman tells us that the Germans spare no pains in learning the language of the country with which they expect to carry on business. This is an essential part of their uniform successes. Knowledge of the language of the country with which one deals is an excellent means of facilitating the introduction of one's products. It is not then necessary to rely upon the faithfulness of strangers.

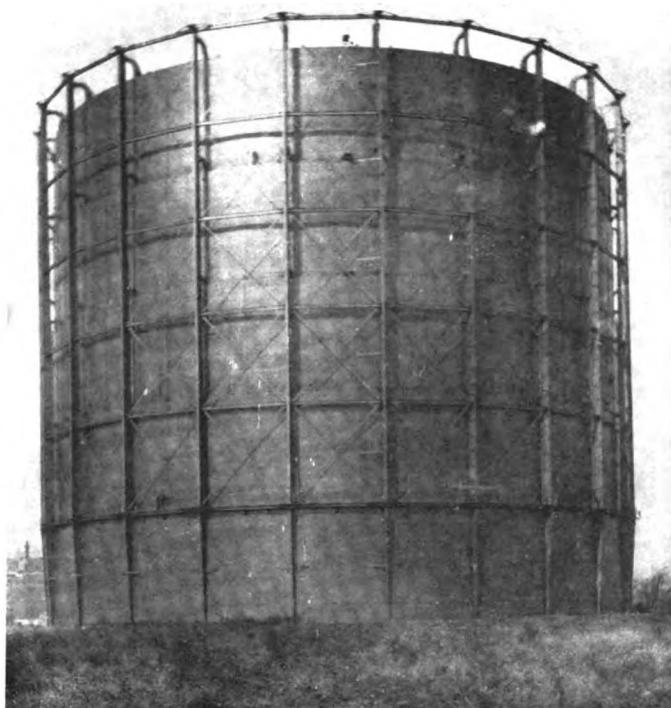
After Mr. Schreibman finished his university course in Belgium he spent many years in Berlin that he might understand practical German industry. He was soon attracted by a notice inserted in a Berlin paper announcing a meeting of a so-called French society. On the hour indicated by the notice he went to the rooms of the society supposing that he would meet none but Frenchmen there. To his surprise he discovered that among the thirty or forty members there was but *one* Frenchman. All the other members were Germans from all social classes—professors, merchants of all kinds and trades and even workmen. The meeting took up for discussion several questions, but the discussion was *only in French*. During the entire evening, under the penalty of a fine, it was strictly forbidden to pronounce a single German word. The speakers stuttered and hesitated during their talks but no one seemed impatient and no one smiled. The Frenchman, employed for the purpose, was the only one having the right of correcting the speaker. When the discussions were over the meeting adjourned and everyone was permitted to speak in German.

This reminds the writer of this article that some three years ago, when he was in Germany with one of the superintendents of the Dixon Company, he was invited to attend a meeting of a commercial society. He at once declined on the ground that his knowledge of German was so limited that he had difficulty in ordering his dinner and in buying his railway tickets. His friend, however, was so pressing in his invitation that he finally consented to go, expecting to spend most of the evening in listening to what he could not understand and in sipping his beer and smoking his cigar which he could at least appreciate.

On arriving at the hall he found about one hundred members present and was informed that the membership was in the neighborhood of 1500. He was introduced to several gentlemen, all Germans, who greeted him in good English, and his greater surprise came when the meeting was opened by the chairman who spoke in English, and the entire discussion that evening was carried on in good English and the discussion was concerning business in America and American politics.

On expressing his surprise and pleasure to his friend, he was told that probably at the next week's meeting there would be about the same number of gentlemen present and the discussion would be in French, and that it was their habit to have weekly meetings at which time they would take up different export matters and the discussion would be in the language of the country discussed and about its trade.

American manufacturers who expect to do an export business will find the article mentioned above very interesting reading and they will still further appreciate the efficiency of German manufacturers and methods, no matter what their opinions may be concerning the Germans.



**GAS HOLDER, MONTREAL LIGHT, HEAT AND POWER CO., MONTREAL, CANADA**

Painted with Dixon's Silica-Graphite Paint

This gas holder at Canada's "Royal City," capacity 6,000,000 cubic feet, is owned by the Montreal Light, Heat and Power Company, the largest concern of its kind in Canada.

It is painted with Dixon's Silica-Graphite Paint. The erectors were the Bartlett-Hayward Company.

Both for construction and maintenance painting of gas holders Dixon's Silica-Graphite Paint is specified, not only because it costs the least per year of service, but because its colors are attractive. Many prefer Dixon's Natural Color; others prefer Olive Green; others Dark Red and some prefer dense Black. We cannot make more colors and retain the wonderful protective efficiency of the graphite pigment.

Remember also that Dixon's Silica-Graphite Paint is not a *pure* graphite paint. It is a *silica*-graphite paint, and the Dixon Company alone mines Nature's mixture of the pigment, which is a better foliated and suspendable pigment than where silica is mechanically added.

Specify this *longest service paint* and see that it is used. Yours is the yearly economy.

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**HAS USED DIXON'S BOILER GRAPHITE WITH GRATIFYING RESULTS**

"During the past year I have used Dixon's Boiler Graphite with gratifying results. Practically all of the water in this country is very hard and not well suited for use in boilers, but by using Dixon's Boiler Graphite the scale is kept safe and the boilers cleaner by simply "blowing-off" from time to time."

-- From letter, dated April 16, 1915, of C. D. RIDGEWAY, JR., Civil Engineer, Santo Domingo, R. D.

### HOW'S BUSINESS?

A Consensus of Opinion from the Branch Managers of the Dixon Company

The distribution of Dixon's Graphite Productions flows through every vein and artery of the industrial world. Almost every man, woman and child uses graphite in one form or another. It is for this reason that the business of the Dixon Company forms an excellent barometer of trade conditions. To its branch office managers, the Dixon Company therefore addressed the query used as the caption of this article. The answers which follow are from New York, Philadelphia, Buffalo, Atlanta, St. Louis and Boston, and geographically form a symposium of national character.

The first of our letters is from Mr. Walter G. Stringer, branch manager of the Philadelphia district. "Today," says Mr. Stringer, "there is a definite confidence in a bright business outlook.

"Eliminating abnormal business it is quite certain that business is more fundamentally sound in the United States. Discussion of the depression is waning away—except in some few sections, notably in West Virginia, as it effects your Philadelphia district."

Mr. Nealley, branch manager of the New England district at Boston, says "that the jobbers generally look for a good fall business. One reason is the stimulating effect produced by the tremendous increase in the foreign trade.

"The New England woolen trade continues and mills are operating at nearly the capacity mark.

"In the cotton manufacturing industry the situation has been doubtful. The dyestuff situation is becoming more serious and more shutdowns have resulted.

"The foreign trade record for the port of Boston indicates that while imports have returned to about normal figures, exports have increased about seventy per cent above normal.

"More people have been employed in New England at this time than for several years past, and from a Dixon point of view prospects look most encouraging."

Mr. Van Derslice, branch manager of the St. Louis district, writes that "the wave of prosperity seems to be upon us with the opening of the many manufacturing plants, some of which have been closed for the past two years.

"With these conditions much improved, together with the prospects of good crops in general from these Southwestern states, I can see no reason why there should not be a great improvement in all lines of trade.

"I find the jobbing trade having a great increase in the number of orders, although buying is extremely conservative.

"Personally I look for no rush of business, but will be disappointed if we do not have a good wholesome trade."

Mr. J. H. Lewis, branch manager of the Southern district at Atlanta, Ga., writes in the *Atlanta Constitution* of September 12, that "I believe business is better in all lines and I know it is better in my line. Down South we must look for better times since cotton has passed the nine-cent-a-pound mark, for that will make money easier and more abundant.

"We are back today to the point of a year ago when we were looking forward to good business and the outlook is again bright. Times are bound to get better and better.

"Now as to our business, I can say that we felt so confident that our goods were to be in greater demand that we moved

from our office in the Fourth National Bank Building to our present location at 328 Peachtree Street, so as to be in better position to meet the increasing trade. We are now ready to meet the public with our line of Dixon's Graphite Automobile Lubricants, including Dixon's Motor Graphite, Dixon's Graphite Grease No. 677 for transmission and differential, Graphite Gear Oil, Non-leak Grease, Heat-resisting Grease, Cup Greases, Graphiteoleo, Graphite Motor Compound and Graphite Pipe Joint Compound.

"Public sentiment, more than any other one thing, is the cause of the better times now at hand. All we have to do is to keep talking better times and we will have them. This is no season for the pessimist. The man with a grouch has no place in the business world in this era. It is the opportunity of the optimist."

Mr. John A. Condit, branch manager of the Northern district at Buffalo, N. Y., writes that "future business prospects promises everything to be well. Of course, the bulk of business is at present for munitions of war, but there is a notable improvement for strictly domestic business. While it is true that some industries are suffering for the want of dyestuffs usually imported; on the other hand, enterprises are starting up to supply needs created by other wants.

"The Buffalo territory dreads the result that will follow from the enforcement of the La Follette Seamen's Act, as the drastic act will strike the lake region in its vital spot, and the demand for the repeal of the law is nearly unanimous in every locality affected by water transportation. Of course, some localities will be hit harder than others, but none will suffer more than Buffalo. Notwithstanding this, we think the domestic business is increasing and it is hoped that when Congress meets they will repeal this law."

John M. Ready, branch manager of the Metropolitan district, writes that "there is no doubt that general business conditions are much better than they were a year ago and are steadily improving.

"Everybody seems to feel more confident, although the feeling with many is that large business in war munitions has stimulated trade rather than improved it permanently. Exporters are doing the largest business they have done for years and largely in legitimate merchandise that was formerly bought in Europe. The exporters feel confident that if the American manufacturers will show a practical desire to hold this new foreign business they can do so, because it will take a long time before European manufacturers can assemble their working forces as efficiently as they were before the war. Also, the high taxes which the war will entail in Europe will make it necessary for an increase in price that will make it easier for American goods to compete with the European goods, and Europe for some time will not be able to finance the vast export trade as she has been able to do in past years.

"The depression that preceded the outbreak of the war has caused a feeling of great caution that seems so far to have prevented any speculative business and many feel, therefore, that while there would have to be a readjustment of conditions if the war should end suddenly, it would be more of a gradual readjustment than a violent reaction.

"On the whole, indications point to a steady and permanent growth of business."

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DIXON'S graphite publications sent free upon request.

## THE USE AND ABUSE OF BALL AND ROLLER BEARINGS

By F. J. JAROSCH

*Chief Engineer, Bearings Company of America*

### FOREWORD

It is an old experience that whenever any damage is done every one concerned tries to blame it on another. So quite often it happens that when a driving part of an automobile breaks down, the car manufacturer tries to blame it on the part manufacturer, accusing him of using defective material or bad workmanship, etc., while the part manufacturer in turn tries to blame it on an incorrect design submitted by the car designer, or incorrect mounting and careless handling by the workshop, or improper lubrication and careless treatment by the car owner, and *vice versa*. This is not done out of bad will, but it is very often quite difficult to state the real cause of the trouble, and loosely conducted investigations lead to mistakes.

After this, sometimes, a lot of time and money is spent by the accused party in search of the real cause of the damage, which surely could have been prevented if the rules and advices given to everyone concerned had been observed.

The following article contains valuable information for the proper use and treatment of ball and roller bearings, which, beside lubricant, are considered among the most important parts in any power-driven vehicle. Ball and roller bearings and lubrication both have the same object, that is, to decrease friction and save power, or, in other words, to increase the efficiency.

As there have been several cases where the failure of driving parts of an automobile was blamed on graphite lubricants, and after carefully investigating the cause of the trouble was found in an incorrect application, mounting or treatment of the bearings, causing an incorrect co-operation of the gears, etc., we hope that, if everyone will observe the suggestions and rules as given in the following article, such cases will be eliminated in the future.

JOSEPH DIXON CRUCIBLE Co.

### I. INTRODUCTION

Although ball and roller bearings are widely known and are being advantageously used in different branches of industry, it is a matter of fact that a great number of ball and roller bearing users are not familiar with their requirements, proper use and treatment. There has been very much said and written about experiments on ball and roller bearings, made by authorities here in this country and abroad, but most of these publications, although they are very interesting for the ball and roller bearing maker and enrich science in this line of industry, do not contain sufficient practical advice for the proper use and treatment of ball and roller bearings, and also such literature very seldom reaches the man in the shop who has to handle the bearings, and, in most cases, is made responsible for the success, and also the failure of bearings in practical

service. It also should be considered that the proper operation of gears, shafts and other rotating parts of a power-driven machine largely depends on the bearings.

The following explanation gives, besides some general information about the requirements of ball and roller bearings, a number of directions for their proper use and treatment, and also states the causes of failures. Since this article principally refers to the application of ball and roller bearings for automobiles, motor trucks and other power-driven vehicles, the intentions are that it should come to the knowledge of the foreman and mechanic in the shops of automobile factories and garages, and also should be of benefit to the individual car owner.

### II. TYPES OF BEARINGS

Referring to ball bearings, extensive investigations have revealed the fact that the highest carrying capacity of a ball bearing of a given material can be obtained by placing the balls in grooved races where they should be in contact only at one point on each race, and these points of contact should lie in the direction of the load. Observing the best relations between the friction and carrying capacity, practical experiments have determined that the radius of the curvature of the groove should be .53 to .55 of the ball diameter.

There are two principal directions of load application, that is, radial load acting at right angles to the shaft axis, and an axial or thrust load acting parallel to the shaft axis. Conceding these conditions, two different designs of ball bearings resulted, one for radial loads, according to Fig. 1, and one for thrust loads according to Fig. 2.

Another design of ball thrust bearings (Fig. 3) has two flat washers, that is, the surfaces are parallel. Since inaccuracies of the mounting parts or deflections of the shaft due to the load are liable to disturb the parallelism between the seat on the shaft and the seat in the housing, which would result in an overloading of the balls on one side of the bearing, the design in Fig. 2 is considered to be the better one, as the spherical seat in the housing allows a self-aligning movement of the bearing. For combined radial and thrust loads which are acting on the balls at an angle to the shaft axis, a fourth design, according to Fig. 4, has been produced. Bearing types Fig. 1 and Fig. 4 are also made as double-row bearings, in order to obtain a larger carrying capacity without increasing the inside or outside diameter of the bearing. Thrust ball bearings are also made as single and double acting bearings, the latter being designed to take thrust load in two opposite directions.

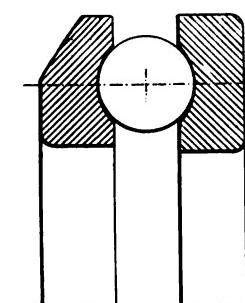


Fig. 1

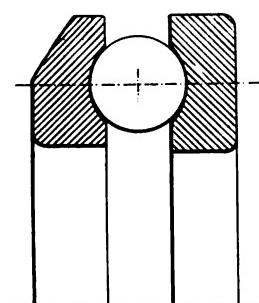


Fig. 2

In roller bearings, there are two principal designs—one for straight

radial loads (Fig. 5), in which the lines of contact of the rollers with the races are parallel with the shaft axis, and a second one for combined radial and thrust loads (Fig. 6), where the lines of contact of rollers with the races and the axis of the rollers must meet at the same point in the shaft axis, and consequently all diameters of the taper rollers at the point of contact with the races must be in the same proportion to the diameters of the races.

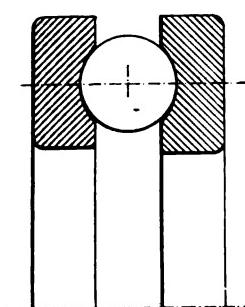


Fig. 3

It is essential to keep the rolling members of ball and roller bearings in alignment. In ball bearings where the balls are inserted in grooved races, they are compelled to keep their straight path in the center of the groove. In roller bearings side shoulders on the races and a caging for the rollers are provided.

Adjustable bearings, whether they are ball or roller bearings, are not practical. In mounting new bearings of this type, the bearings will be at the mercy of the man who has to mount them, as the proper adjustment depends on the fineness of the feeling of his hands. Therefore, it is to be expected that sometimes the bear-

ings will be mounted too tight or too loose. In the former instance, the rolling members will be pressed tight between the races, which will cause an overload and increase of friction, noisy running and quick wear of the bearing. If the rolling members are adjusted too loosely, they will rattle, and in roller bearings the rollers will lose their alignment and will wedge, thereby producing great end thrust. The idea that worn bearings may be adjusted is absolutely wrong, and even detrimental. The races and also the rolling members never wear off equally at all

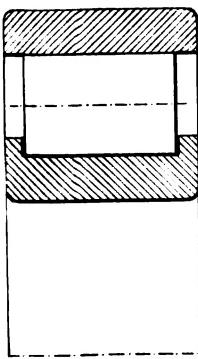


Fig. 5

points, as the bearing is not loaded equally at all its portions. By tightening up a worn bearing in order to eliminate the play, some of the rolling members will be jammed between the sound portions of the races, while the others will be loose between the worn portions. Furthermore, the rolling members will be pressed out of align-

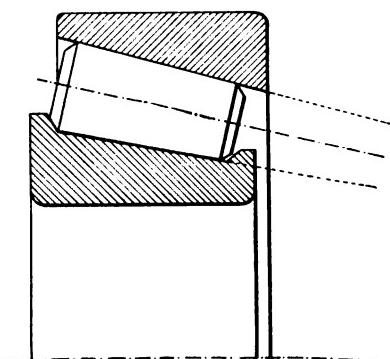


Fig. 6

ment and also will have to run over uneven parts of the raceway. This condition will very soon lead to an entire destruction of the bearing, besides giving trouble during its operation.

*(To be Continued)*

### ADVICE TO HUSBANDS

It will be noted elsewhere in GRAPHITE that one of the young Dixon men has taken unto himself a wife, and there are strong indications that others are to follow. It is, therefore, quite timely to give some advice to these bridegrooms that are and to be.

When you are out late, you may as well tell her the truth, she won't believe it, anyhow.

Don't be grouchy about her allowance, even if it runs up as high as twenty-five cents a week.

Eat what she cooks and keep your mouth shut. If you keep your mouth shut you can't eat very much, so it won't hurt you.

If she wants to paint the furniture over every week and put the pianola in the kitchen, let her do it, for she will do it anyhow, whether you let her or not.

If she won't let you smoke in the house, so much the better. Smoking doesn't do you any good, anyhow.

When she hears burglars in the cellar, hop right out of bed and go and look for them. You needn't be scared, there won't be any burglars there, and if there should be they will probably shoot you and you will never have to hop out of bed to look for any more burglars.

If she wants the bedroom window down and you want it up, put it down, for you won't get any sleep if you don't.

### PAINT EXPOSED TO SALT AIR

Seaside conditions are trying upon both the metal and the protective paint. It is difficult to find a paint which will give satisfactory service under the trying conditions of salt spray, dampness, heat, etc.

We are glad to reproduce the following testimonial from an expert. It will be noticed that Dixon's Silica-Graphite Paint gives equally good service on either wood or metal.

ALBERT F. DEWEY

CONTRACTORS AND STEVEDORES

PORT INGLIS, FLA., July 16, 1915.

*Joseph Dixon Crucible Company,*

*Jersey City, N. J.*

GENTLEMEN:—After using Dixon's Silica-Graphite Paint for the past eleven years on both wood and iron, exposed to the salt air, I find it far superior to any other paint in the protection and preservation of both wood and iron so exposed. I have used many other paints, but no other has given such good results as your paint. I never fail to show the results I get from your paint (when I have the opportunity) to those interested, and looking for good paint. Trusting this testimonial, which I am pleased to give, may be of some service, I remain,

Yours very truly,

(Signed) A. F. DEWEY.

DIXON'S graphite publications sent free upon request.

## DIXON TREASURER TO VISIT EXPOSITION



Accompanied by Mrs. Schermerhorn and a party of friends, J. H. Schermerhorn, Treasurer of the Joseph Dixon Crucible Company, is on his way to San Francisco. Mr. Schermerhorn will combine business with pleasure, for during his stay in San Francisco he will attend, with representatives of the San Francisco office of the Dixon Company, the Eleventh Annual Convention of the National Association of Stationers and Manufacturers. During his trip across the continent, Mr. Schermerhorn will also visit

the Buffalo, Chicago and St. Louis offices of the Dixon Company. His plans also include stops in Detroit and many of the larger Western Canadian cities en route. Upon the coast at Seattle, Portland and Los Angeles, the Dixonite will renew his acquaintances with the trade. At San Francisco he expects to greet many of those who attended last year's convention at Philadelphia and it is safe to say that he will also be glad to meet such other "men from home" as attend. Two days will be devoted to the wonders of beautiful Yosemite Park. The return will be made via the Grand Canyon to Albuquerque and Denver. The trip will occupy but little more than a month. Mr. Schermerhorn is scheduled to return home October 18.

"HAVE WE Americans the ability, the patience, the persistence, the determination, which are required to conquer foreign trade?" So asks Harrington Emerson in an introductory to an article published in *The Engineering Magazine* on export business. He adds: "The skill with which the Germans have carried on their war against overwhelming odds of extent of territory, of number of soldiers, of navies, of pecuniary resources, is a very intense proof of the organizing and relentless skill they were introducing in manufacturing and exporting lines. Any American who expects to succeed to German trade must do more than open his mouth and expect roasted reed birds to fall into it. He will for the first time in his commercial and industrial life be up against the real thing."

When Europe, penitent and prostrated, turns to the rehabilitation and reconstruction of peace, there will be a struggle for industrial supremacy the world has never witnessed.

In our desire for American eminence, we must be equipped for the struggle. We have the resources, the genius, the talent, the efficiency to justify the highest aspirations, we have the encouragement of marvelous development already made. But, if we mean to go on, if we hope for the maintained stride of this new-world giant of industry and commerce, we must hold him unshackled and unafraid. We see him hesitant and halting, influenced by fear that comes from attack at home. There ought to be an American spirit and an American aspiration to inspire and encourage. We want big business and little business and profitable business—all righteous business. We want big factory and little factory and successful factories everywhere. We want the progress for which they pave the way, we want the attainments which they make possible. We want law and its enforcement, but we want the laws conceived from that high plane which gives a view of the miracle accomplished and a mental grip of the possibilities yet to come.

—WARREN G. HARDING.

## NEALIS—HILLMEYER

Rev. E. L. Stoddard recently finished a chôre for Dan Cupid at St. Stephen's Church in Jersey City. The bride was Miss Jane Vance Nealis and the groom, Frederick Luther Hillmeyer of the Joseph Dixon Crucible Company. A handsome set of silver was the gift of the groom's fellow employés. After a three weeks trip to Bermuda the groom will resume earthly pursuits at the office.

AN OLD TIME user of Dixon's Flake Graphite for lubricating says: "It hurts a man's vanity to know he knows a thing that somebody else knows he doesn't know." He adds that it galled him greatly to be told, as he was frequently, that graphite was no good and was not a lubricant, when he knew from experience that it was useful at all times and sometimes even a necessity.

He says still further that he is glad now that thousands know about Dixon's Graphite what he knew twenty-five years ago. In those days he was a locomotive engineer and had to buy Dixon's Graphite with his own money—or steal some extra oil from the signal lamps.

"On account of water conditions here we have always been troubled with more or less scale. Dixon's Boiler Graphite has, however, loosened this up and practically remedied all of our trouble. We have had wonderfully fine results."

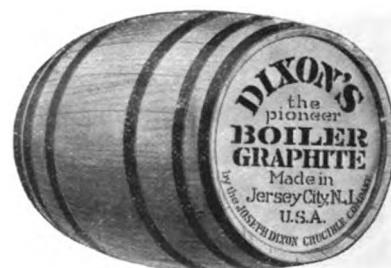
ARKELL & SMITH, D. A. Burnap, Asst. Mgr.

# Dixon's Boiler Graphite

helps to save money, time, work and worry. Booklet No. 190-T upon request.

Made in JERSEY CITY, N. J., by the

**JOSEPH DIXON CRUCIBLE COMPANY**



Saves money,  
time, work and worry

## DIXONITES WHO PENCILIZE THE COUNTRY



No. 1.—LLOYD OF PHILADELPHIA

Albert R. Lloyd knows more than merely a whole lot about lead pencils. He is well posted about the entire stationery line, about novelties as well as about staples. His work during his business life has been confined to the stationery line. When he speaks of it he speaks with the voice of experience. And yet, so modest is he that he never seems to know so much as to embarrass. At the round-table conferences of the Pencil Department of the Philadelphia branch, his advice is generally sought before it is given; and when it is given (and it is always given gracefully) it is listened to.

Mr. Lloyd is more than merely a good salesman. He is a good friend of his every customer at the same time. This two-fold relation—that of friend and business ambassador to a customer—is maintained to a greater or less degree by all traveling men. In his case it is in the greater degree that it is maintained. And "Sparrow" Lloyd, as many of his customers call him, is as welcome wherever he goes for Dixon as are the birds in May.

Mr. Lloyd is a man of large presence and his friends say, "His heart is as big as his body."

At the various little family affairs of the Philadelphia branch, no one is ever quite so cordial and genial as "Al." His "Order Book" No. 2020 Pencil is ever ready. He is a loyal friend; a good companion and a hard-working, successful Dixon man. All of us who know him love him. He has done a man's share of work in the world without bitterness, and we take our hats off to him.

## HOW SOFT PENCILS SAVE WORK

Many men and women give themselves a great deal of extra work in summer time and in damp weather by trying to work with a hard lead pencil. It doesn't mark well, it tears the paper—especially the thin paper often used for sales slips—and licking it only makes it break off and need constant sharpening. A soft pencil\* wears down more quickly, there's no doubt of that, but it saves time, worry and actual physical labor.

The action of paper on a lead pencil (which isn't lead at all, by the way, but graphite, another form of diamond) is the

action of a file. As the pencil moves over the paper the roughness of the paper scrapes off the graphite of the pencil. This graphite is a powder mixed with gluey substances and pressed into a thin roll. It is just sticky enough to hold fast to the paper when it has been scraped off on it.

The colder and drier the weather, the harder and rougher is the paper and the more easily it scrapes off the graphite or the lead of the pencil. But paper is only dried pulp, at best, and when the weather gets humid and moist the paper is ready to turn back into pulp again. Then it loses the file-like character it had when it was dry, and it's a real job to make a hard pencil write properly.

There's another thing, too. To press down a weight of half a pound takes as much energy as to lift up a half a pound. When you dig into the paper with a half-pound pressure (and you probably often do if you're working with a hard pencil) it's as bad as though you were balancing a half-pound weight on your wrist every day. That's the way to get writer's cramp. You'll hardly ever suffer that way with a soft pencil.

There's another little trick, too, which helps pencil-pushers. That's using a large pencil\*\* instead of a small one. Unless your hands are very small the average pencil is too thin. If you want to find out what a difference this makes, just try using for one day, or a half a day, the little thin pencils that come with dance programmes.\*\*\* It will tie the muscles of the back of the hand all into knots. A very small variation in size makes all the difference.—*N. Y. American*.

\*Dixon's Special Black No. 312 or Dixon's Four Hundred.

\*\*GRAPHITE suggests a Dixon's Beginners or Dixon's Giant.

\*\*\*Such for instance as Dixon's Program Pencil.

## THE PENCIL

I am the lead pencil.

I pioneer all great projects that must be sketched in advance.

I go through life in men's pockets as necessary a part of the day's work as paper or food.

I travel foreign lands quietly stowed away for emergency purposes.

When people are happy, I write notes of congratulation, telegrams of joy.

When people are sad, I hesitatingly help pencil the note of sadness and regret.

I fit childrens' hands that are small because I am made fat and bulky.

I fit the hands of all men and women because I am made of the finest wood, varnish and graphite to fit every need of life.

The tramp finds me when I am worn to a stump and stores we away in his threadbare coat.

The millionaire carries me in a sterling silver pencil case to give me added beauty and grace.

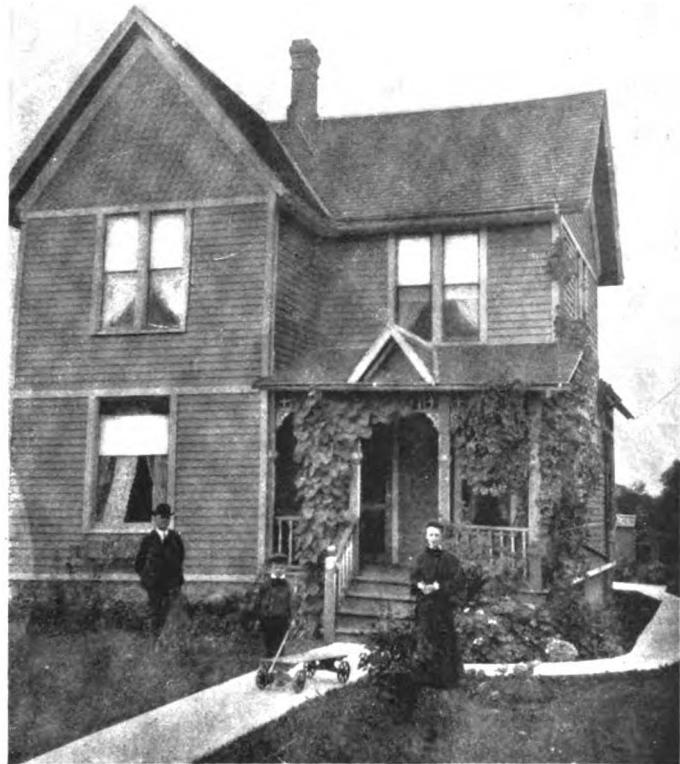
The school boy abuses me, but I smile because I know in time he will come to a realization of my worth.

I love service. I serve all equally well. I write wills, sketch skyscrapers, complete enormous railroad projects, enter every accounting room in the world, enter every school, office and every walk of life.

I am the Dixon Lead Pencil.

"WEAK men wait for opportunities; strong men make them."

—ORISON S. MARDEN.



#### DIXON'S SILICA-GRAPHITE PAINT ON WOOD

Too few people realize that the field for Dixon's Silica-Graphite Paint on woodwork is almost as wide as upon metal work. The unrivalled quality of the *longer service* given by Dixon's Silica-Graphite Paint is just as marked upon wood as upon metal. Therefore, on both metal and woodwork, when you divide the years of service into the first cost, the yearly cost of this *longest service* paint is infinitely lower than for any other paint. One of the many testimonials we have received is the following:

OAKFIELD, N. Y., August 2, 1915.

GENTLEMEN:—In March, 1903, I was persuaded by your representative, Mr. John A. Condit, to paint my house with two coats of Dixon's Silica-Graphite Paint, Natural Color, which I did the following June, and trimmed it with two coats of white. This paint has stood well for over twelve years without cracking or peeling off, while my neighbors have painted their houses every two years with ready mixed paints.

My house looks better today than theirs.

Yours truly,

(Signed) C. W. Moore.

#### A MESSAGE

When I speak of success I do not mean it in the sordid sense—the result of a man's work is not the measure of success. To go down with the ship in storm and tempest is better than to paddle away to Paradise in an orthodox canoe. To have worked is to have succeeded—we leave the results to time. Life is too short to gather the harvest—we can only sow.

—ELBERT HUBBARD.

DIXON's graphite publication sent free upon request.

#### AFTER THE WAR, WHAT?

Some Extracts from "The Americas," published by The National City Bank of New York

Men at the head of manufacturing and merchandizing activities of the United States have begun to discuss seriously as to what will be the effect of the return of peace on the costs of competitive enterprise and the result upon the prices of what they make or sell.

It is possible to imagine a struggle for very commercial existence on the part of a certain nation or two. Whatever the outcome of the war, the keenest international trade rivalry is sure to come.

Leaving out all talk of economics and getting down to the clean, simple question, we find it to be: "What will be the effect of peace upon the world's prices?"

Opinions range widely, even among a dozen men any one of whom would be regarded as almost final authority.

The majority looks for an increase in European manufacturing costs throughout most industries requiring sound bodies, strength and skill.

The prevailing view is that Europe cannot possibly manufacture as cheaply as heretofore; that wages, already rising, will go even higher on account of the burden of taxation and the inevitable increase of the cost of living, as well as of the decrease in numbers of workmen.

In Germany industries of all kinds are closely coordinated and the imperial government has a controlling hand upon them all. In Germany the whole matter of export trade has been worked out scientifically and has been effective.

Heretofore there has been no great world-trading country that has not sold abroad cheaper than it has sold at home. There is talk of the probability of England's adopting a protective tariff. If she does, this will play its part in her foreign price-making. A tariff country seems better able to handle foreign prices discriminately than a free trade country.

The matter of selling abroad at lower prices than at home has been publicly discussed with some heat in the United States. The discussion in tariff debates has been exclusively on the ethics of using tariff protection when selling to Americans and of giving foreign consumers the benefit of lower prices.

Even manufacturers are divided in opinion about the good policy of doing this. In the first place, United States manufacturers seem to have an instinctive aversion to cutting prices.

*The Americas* tells us further that there is now a keen interest in the foreign trade movement among far-seeing manufacturers who have heretofore thought only of the home market. They see economies of production as a result of the increased sales that foreign business will bring—reductions of cost with larger profit and possibilities of price reduction. The development of direct American banking relationships abroad is furnishing the machinery for sales and profitable credits. Manufacturers and exporters can at this moment establish business connections as they never could before.

Manufacturers who are becoming interested in foreign markets will do well to get copies of *The Americas*, which, we have said above, is published by the National City Bank of New York and issued monthly.

"IT IS not by a man's purse, but by his character, that he is rich or poor."—R. L. STEVENSON.

## DIXON'S GRAPHITE PIPE JOINT COMPOUND

### How Foreign Nations all Appreciate a Good Thing

The shipping clerk of the Dixon Grease, Paint and Lubricant Works, made the remark the other day that it looked very much as though the foreign nations were eating Dixon's Graphite Pipe Joint Compound, owing to the very large shipments that were being made.

On looking up our records, we find that the shipping clerk's statement is not without foundation so far as the sales are concerned.

Dixon's Graphite Pipe Joint Compound has for the past few years met with a sale in foreign countries several times greater than it has enjoyed in the United States. Whether this is due to greater appreciation of its merits by foreigners, or to a more vigorous sales policy, we cannot say.

Dixon's Graphite Pipe Joint Compound is a material absolutely without an equal for putting together all threaded joints. Being much lighter and much greater in bulk than red lead or white lead, it is far more economical to use than either of those materials. Being a lubricant, it enables the pipe fitter to make a joint far tighter, as he can get a quarter or half turn more on his pipe with the graphite compound than he can get with lead compounds.

It is also true that due to the lubricating quality of the graphite compound, the work of the pipe fitter is much easier and he is less tired at night than when he is making use of other forms of compound.

The Dixon Company itself makes a large use of its Graphite Pipe Joint Compound. Whenever the engineer opens the B. & W. boilers, every header is coated with Dixon's Pipe Joint Compound. This prevents leakage, prevents sticking, makes the work easier and prevents rusting.

Dixon's Graphite Pipe Joint Compound is a material that should be in use in every factory in the land. It should be used in all boiler works, gas companies and wherever there are ground flanges or threaded pipes to be joined.

All threaded pipes that are put together with Dixon's Graphite Pipe Joint Compound can be opened any time without fear of breakage or straining of tools.

### A REMINISCENCE

Contributed by Dudley Johnson, Manager Chicago Branch

"Hello Fred, where are you going?" "Just across the street to my office. Come along, it will only take a minute." We entered the old Chicago post office which stood on the same site as the present building. Fred unlocked an old-fashioned walnut front post office drawer and abstracted from the depths a half dozen letters and an order book. He had been away on the road for two weeks and the mail had accumulated.

Fred Musson was at that time (twenty-five years ago) Dixon's sole representative in the Chicago district, which extends from Pittsburgh to the Black Hills and from Duluth to Cincinnati. His office was this post office drawer. He would write up his orders on top of a showcase in a stationery store which was only a stone's throw away. It did not take him long. He sold pencils, crucibles, retorts, paint, stove polish and all of Dixon's Productions. He was the whole office force, traveling organization and missionary army. He was a good mixer and had the happy faculty of always being able

to drop in just about the time the stock was low and there were not many orders that got by him. He was an exceptional salesman and everybody liked him. He was not troubled with having to render expense accounts, make out daily report slips or any of the modern details. He was at all times in close touch with the "Big Boss" in Jersey City, but much of the correspondence consisted of scribbled notes back and forth, which, nine times out of ten, would contain a joke or something frivolous. The "Big Boss" knew the customers almost as well as Fred himself, and without statistics was able to know how well Fred attended to his duties and what he was worth to the firm for the coming year.

This old-time method has, of course, passed away. Business has doubled and doubled again. The sales sheet for one month now shows as much as for a whole year then. Dixon's Productions have increased in number since those early days. The Chicago office of the company today consists of five offices in the Monadnock Building, which have been taken on, one at a time, in the expansion and growth of the business. Sixteen traveling men cover the ground and there is always room for more. Thirty-one employés, all told, look after the Dixon correspondence and statistics, following up prospective customers and yet there are opportunities for increasing the business almost without limit.

Everybody has use for Dixon's Productions. Just try to find somebody who has not used Dixon's goods and see how hard it is. Ask your friend if he has ever used a Dixon Pencil, Rubber, Eraser, Pen Holder or Rubber Band. Maybe his wife uses Dixon's Stove Polish or his chauffeur uses Dixon's Automobile Lubricants in his car. Dixon's Graphite Paint may be on his iron fence, on the roof of his house or window screens. If your friend happens to be a foundry man, he uses Dixon's Crucibles or Foundry Facings, Core Wash, or C. C. & G. If he is an engineer, Dixon's Lubricating Graphite, Motor Brushes or Resistance Rods are familiar to him. If he is a sportsman, he ought to know that the shot and the powder or both, are polished with Dixon's Graphite. His gun and fishing reel need Graphitoleo ever so often. Even his fishing lines are better for careful "dressing" to keep out the moisture and prevent rot. The lines will slip easier through the reel, etc.

New uses for graphite are being discovered every day and Dixon is always on the job. Always first in the field—always years in advance. Competitors come trailing along with makeshift substitutes for the Dixon brand, but the buying public is slowly learning that a concern nearly one-hundred years old, has established a reputation that they cannot afford to jeopardize by questionable methods—that when they deal with Dixon, the cards are all played on top of the table and it is these satisfied customers who lead the chorus in that grand old song:

I hope he lives to be a hundred,  
I hope he lives to be a hundred,  
I hope he lives to be a hundred,  
And then a hundred more.

### "ADDRESSED TO OUTSIDERS"

If everyone thought as much of Dixon's Silica-Graphite Paint as the steady users of this paint have thought of it for fifty years, there would be no need of this brief sentence, addressed to "outsiders." Moral: Join the Dixon Silica-Graphite Paint Club.

**WHITEHALL VIADUCT, ATLANTA, GA.**

Five and One-Half Years' Service Given by Dixon's  
Silica-Graphite Paint

Our illustration on front cover of GRAPHITE this month shows the repainting of the Whitehall Viaduct at Atlanta, Ga., with Dixon's Silica-Graphite Paint. It was painted five and one-half years ago with Dixon's Paint and the service thus given was the longest that the City of Atlanta has ever had from any protective paint.

The conditions of gases, smoke, etc., are unusually severe, as there is but small space between the stacks of the large number of passing engines and the viaduct.

Mr. G. D. Johnson, the skilled and experienced contracting painter of this bridge, is a firm advocate of Dixon's Silica-Graphite Paint, because of its service on this viaduct and other similar structures in Atlanta.

Dixon's Silica-Graphite Paint is used by many municipalities in the United States, South America, etc., for the reason that when the many years of service are divided into the first cost Dixon's Paint accomplishes the "greatest yearly economy."

Whether you are from Missouri or not, "let us show you" next time you are ready to repaint.

"I HAVE recently seen a copy of your little booklet "Useful Spanish Words and Phrases," and should be glad to receive a copy of it. I have a class in Spanish to whom I should take pleasure in distributing copies, should you care to have me do so."—JAMES W. COOPER, Professor Department of Romanee Languages, Whitman College, Walla Walla, Wash.

Making good crucibles is like using them—a job for the man who knows how.

## Dixon's Graphite Crucibles

are good because of the "know how"—the eighty-eight years of experience—back of them. Ask for booklet No. 190-A. Made in Jersey City, N. J., by the

**JOSEPH  
DIXON  
CRUCIBLE  
COMPANY**

Established  
1827



## COURT DECISION FAVORS PRICE REGULATION

A recent decision affecting a question of price cutting is of vital interest to the stationery field in all its branches, in these times when that subject is being considered by all serious minded business men. Judge Hough, of the United States District Court, Southern District of New York, denied an injunction, sought under the Clayton law, to compel a manufacturer of a trade-marked article to furnish it to be sold at other prices than those fixed by the maker and seller. The plaintiff was proprietor of a chain of grocery stores that had been supplied with the article at wholesale rates, and that had undersold the retail trade. Thereupon the makers took means to prevent the plaintiff from obtaining the goods to be sold at other than the fixed prices. This was represented to the court as the exercise of a monopoly, unfair competition, and the practice of a boycott. The decision is interesting beyond the immediate application of the case, for it declares that there is no distinction between fair and unfair competition under the Sherman and Clayton acts. Under both restraint of trade to be actionable must be unreasonable. The sort of competition practiced by the plaintiff is not the sort of competition which the law favors in the public interest. The only competition restrained by the practices of the defendant is the competition between sellers of the same article at different prices, and the only trade restrained is the commercial warfare of the large seller against the small seller, or "that of a merchant who for advertising purposes may sell an article at a loss in order to get customers to his shop, and then persuade them to buy other things at a compensating profit." Price regulation is not an unreasonable restraint of trade, but cutting prices in the manner of the plaintiff would take from every grocery man in the field of cut-price competition the incentive to buy this article, "and collectively such grocery keepers are more important to the public and the defendant than is the plaintiff."

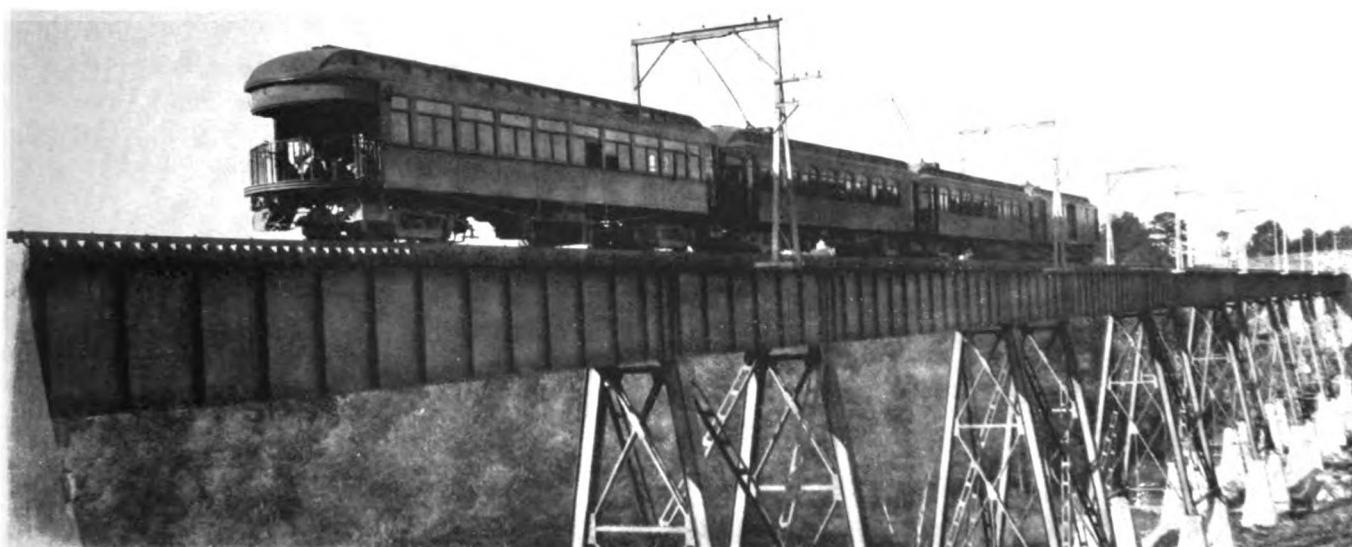
—*Geyer's Stationer.*

ALTHOUGH the *New York Sun* in an editorial seems rather pessimistic about "civilized mankind," nevertheless what the *Sun* says may be indeed the bitter truth. The *Sun* writing on "that world's earthquake, Waterloo," says:

"It is not Waterloo, but desolate Belgium that comes to mind. The perspective of history and the scale of war have been enlarged immeasurably. Man, mainly a destructive animal, is continuing with a hundred new devices, with the overair and the undersea added to his range of ruin, the death dealing which his ancestors, probably arboreal in their habits, have practiced according to their lights or darkness since they came down from their genealogical tree and began to murder one another with clubs made of its branches. It is a pleasing reflection that in a hundred years the gracious arts of slaughter have made such an advance."

## INCOME TAX

Answering an inquiry as to how many pay income tax in the United States, a New York paper makes this reply: The figures of the fiscal year 1914, as to the number of men and women paying income tax, are as follows: Single men, 55,212; single women, 23,551; married women making separate returns, 6,682; married persons, registering as units of family or group, but including the women last mentioned, 278,853.



### BRIDGE, PIEDMONT AND NORTHERN RAIL- ROAD, CHICK SPRINGS, S. C.

The bridge illustrated above is located over the Enoree River, Chick Springs, S. C. Like many other bridges of this important railroad, it is painted with Dixon's Silica-Graphite Paint because of the unequalled *yearly economy* and *longest service of that paint*.

The bridge was erected by the Virginia Bridge and Iron Company, and the work was constructed under the supervision of Major Thomas B. Lee, the eminent railroad engineer.

Dixon's Silica-Graphite Paint is specified, both for construction and maintenance painting on the great railroads of America, Latin-America and the Far East, exhaustive tests having been made in many instances before the railroads finally adopted it as their standard.

Could the Dixon Company furnish any more reliable recommendation? The railroads are the most scientific economists. They investigate and compare, and their reason for deciding on any standard supply is *economy and efficiency*. Here is where Dixon's Silica-Graphite Paint qualifies without a rival in *highest yearly economy*.

### FOR AUTOMOBILE WHEEL RIMS

Sometimes a puncture is not the worst thing that can happen to an automobilist. Our attention is called to a man who found it necessary, on account of a puncture, to take off a detachable wheel and fit the spare, equipped with a sound tire, in its place. After much difficulty and then only through his own ingenuity, he succeeded in removing the wheel and found, as he had expected, the cause of the seizure was due to rusted surfaces. It taught him the lesson that Dixon's Motor Graphite will successfully prevent the rusting and seizure of all such parts.

Dixon's Motor Graphite is superior to talcum or powdered mica for inner tubes, and there is no end to its usefulness in the betterment of an automobile and comfort of the owners.

WHEN YOU get a puncture, smile. It may fool the other fellow.

### BUYING MARKED DOWN GOODS

The very illuminating articles in the *New York Sunday Tribune* by Mr. Adams, if carefully read and followed, will save anyone money and much discomfort. It is bad enough to buy a second class article when you know it is such, but worse to buy it when you are told that the price is "reduced." Mr. Adams has written on several lines of goods sold in New York City by fakirs. We are told that it is a general custom in the hat trade for retailers to order hats, beginning in July, for delivery the following April. At this time orders are placed for two qualities of hats, those to be sold at the regular retail prices, whatever the dealer may elect, and others to be sold at 'reduced' prices during July and August. The hats ordered for late delivery for July and August sale are of a much cheaper quality than those for May and June regular sale, and they are made to be sold at the prices they are sold for, and not at the prices which the dealers advertise they are reduced from. For instance, it is customary in New York about the first of July for dealers to reduce their 'regular \$2.00 and \$3.00 hats' to lower prices, say \$1.35 and \$2.00, but these hats are not regular stock, but hats made to be sold for \$1.35 and \$2.00. This is a regular trade practice in New York, Boston, Philadelphia, Baltimore and a few of the larger cities.

In 1909 retailers in twenty-five of the smaller cities did not resort to the above mentioned practice. Retail prices were upheld until August 1, and then an honest reduction in prices was made from the regular stock, and a legitimate clean-up was thus accomplished. This latter practice has grown until, in practically all the cities of the United States, with the exception of the very largest, dealers have come to this old-new method of doing business, while in New York, Boston, Philadelphia, etc., the retailers still buy hats for July delivery and soak the dear public for inferior merchandise at 'cut' prices.

"LAST YEAR I wrote asking for your pencil exhibit for use in the country schools, and I assure you that there is not a boy or girl in the county who has not had an eye opener as to the many peoples who have had a hand (though indirectly) in the production of Dixon's Pencils. We have gotten a world of good out of them."—*From a School Superintendent.*

**EXPERIENCE A GOOD TEACHER**

A traveler tells of a genuine old Yankee whom he once overheard arguing on a Rhine steamer with a sturdy old Hollander and trying to convince him that the Dutch did not know how to build wind mills. The Dutch, however, had the experience of hundreds of years in building wind mills which served their purpose in every way, and so it is with the Joseph Dixon Crucible Company in the matter of graphite. The Dixon Company has an experience going back to 1827. The Dixon Company has had the advantage of receiving and testing every known kind of graphite coming from all parts of the world.

It is said that all whiskies are good, but some are better than others—so it is with graphite. All graphites may to a certain extent have lubricating value, but it is only the thin Ticonderoga flake graphite that meets all the requirements of a perfect lubricant. It is well known that all bearing surfaces are rough when viewed through a microscope. When the thin flakes of Ticonderoga flake graphite are applied to such surfaces, a veneer-like coating is formed of wonderful smoothness and endurance.

For the best form of graphite for a paint pigment where the paint is intended to protect metal surfaces exposed to all of the various outdoor conditions and climatic influences, it has been found, through an experience running back for fifty years, that the pigment silica-graphite, in which the silica forms a part of the graphite itself, is by all odds the most durable form of graphite for that purpose.

In the manufacture of lead pencils, where the graphite must be of an impalpable degree of fineness and of great softness in order that it may yield, then perhaps the amorphous graphite mined in Mexico is equal, if not superior, to the amorphous graphite formerly found in England and later on in other parts of Europe.

Such graphite, when fortified by proper quantities of the tough Ticonderoga graphite, makes an ideal pencil lead, a lead that yields easily and yet is tough enough to enable one to write for a long while without re-sharpening his pencil.

In the manufacture of crucibles, no graphite has been found in every way equal to the crystalline graphite mined in such large quantities in Ceylon, from whence comes graphite used for crucibles and some other purposes the world over.

In the beginning of this article we had in mind the fact that every now and then there pops up some new concern claiming to be miners or importers of graphite and manufacturing and offering graphite products apparently without regard to the fact that certain graphites must be selected for the work intended, just the same as certain steels must be selected according to whether the steel is to be used for tools, for building purposes, or for some one of the hundreds of purposes to which steel is adapted when properly made.

**WHAT SHOULD HE PAY?**

An Eagle pencil man hires an automobile to drive to a city twelve miles distant and return for \$4.00. On the road six miles out he picks up a Dixon salesman whom he takes to the city, and back to the point where he picked him up, the understanding being that the Dixon man should pay his part of the \$4.00. What was his part? The Dixon man offered \$1.34. The Eagle man said it should be only \$1.00. A sample of Dixon's new "Eldorado" Pencil for the right answer with proof.

**GRAPHITE****BOUQUETS**

"I like my GRAPHITE—it is fine. I like also the products."

—O. T. ICE, 1755 Laurel Street, Shreveport, La.

"Our library receives GRAPHITE occasionally. We would like to have it come regularly, as it has many friends here."

"Please send GRAPHITE regularly for I enjoy it very much."

—LOUIS H. PRAGER, 129 Grove Ave., Highland Park, Mich.

"I read each copy of GRAPHITE after, *not before*, the boss is through with it."—W. A. REYNOLDS, Trenton R. R. Shops, Trenton, N. J.

"We always enjoy reading GRAPHITE and frequently find something in its columns which we feel will prove equally interesting to our readers."—*St. Louis Lumberman*.

"GRAPHITE is very much appreciated and the articles appearing in each month's issue are read with interest."

—THOMAS VANCE.

"GRAPHITE is a welcome visitor with me and I hope you will continue sending it on. We are thinking of trying your boiler graphite this coming season."—J. H. MORGAN, *Supt.*, Mutual Cotton Oil Company, Ozark, Ala.

"I have seen several copies of GRAPHITE and found it to contain very interesting reading matter. A number of the men in the various offices are receiving GRAPHITE and if you can possibly do so, I would be pleased to have you add my name to your mailing list."—*From a Railroad Man*.

"I have read GRAPHITE for some years and I am always glad to find it in my mail. Not only do I appreciate the articles of educational and practical value which it contains, but also the paragraphs of lighter strain which simply force one to read the paper from cover to cover for fear he will miss something worth while."

**DIXON'S GRAPHITE NON-LEAK GREASE No. 680**

Differential housings of many cars chronically leak at the ends of the axle so that the lubricant works out on the brake bands and wheels. Dixon's Graphite Non-Leak Grease No. 680 successfully overcomes this trouble. Car owners who have been annoyed by leaky housings will appreciate the merits of this unique lubricant.

This grease is not intended for transmission cases nor even for general use in differentials, for it is a special adhesive lubricant that is to be used only when No. 677 or No. 675 will not do the work.

Sold in five and ten pound tins. Larger packages if desired.

**GOT THE "GRAPHITE" HABIT AT COLLEGE**

I find GRAPHITE interesting and instructive. I had the opportunity of reading it at college and would now like to see it among the regulars in my library so that I might keep in touch with what is doing in the graphite industry.

—JOHN H. KLINE, 207 W. 3rd Street, Dayton, Ohio.

## RAILWAY BRIDGE PAINTING

Because of possible breach of discipline and criticism by his superiors, we are not permitted to give the name of the chief engineer of a trunk line railway company who writes us that he has used Dixon's Silica-Graphite Paint for painting approximately 14,000 tons of steel bridges in 1909. He advises us that most of the bridges were at that time in rather a bad condition and required a good deal of scraping and cleaning, and that after that was done, they applied two field coats of Dixon's Silica-Graphite Paint.

After six years of service, the bridges are in fair condition and the railroad company referred to has not found it necessary to repaint any of them, the paint and the service given being entirely satisfactory. The chief engineer also advises us that all of the bridges are located at or near places where they are subjected to very severe atmospheric conditions, heavy smoke, etc., from boats, blast furnaces, locomotives and also the fogs and mists which prevail a great deal of the time in that locality.

Naturally this engineer has no hesitancy in recommending Dixon's Silica-Graphite Paint, which is recognized world-wide as the *greatest economy and longest service* paint in use.

1827-1869-1915

Forty-six years ago, in 1869, the *Jersey City Evening Times* of September 11 of that year said:

"It will be forty-two years next month since the late Mr. Joseph Dixon started the manufacture of plumbago crucibles in Salem, Mass. From that place he went to New Bedford, where his works were entirely lost by fire, without insurance; and he then established himself in Taunton, Mass. Thence he went to Mystic, Conn., and started but failed, and came to Jersey City, in 1847, starting business in a little building on the site of the present enormous establishment.

"When he first started, the only plumbago crucible known was made in Germany, but it would only stand three or four meltings and was so liable to crack before the first day's work was done, that gold and silver refiners and melters of brass and other composition metals were always in danger of losing their metal. After many experiments, which his great attainments in the science of chemistry enabled him to make intelligently, he produced in October, 1826, a crucible that could be used a whole week without any fear. In fact, the late Mons. Diericks, *Directeur de la Monnaie*, at Paris, wrote, in 1857, that 'the crucibles have been used in this mint two or three years, and I cannot praise them too highly. Each crucible will stand from forty to sixty pourings and can be plunged into cold water when red hot, and used again without fear. They came rapidly into use in this country, entirely driving out the foreign article, and now stand unrivaled in any part of the world.'"

## OVERCHARGED

In a western town the attorney for the gas company was making a popular address.

"Think of the good the gas company has done!" he cried. "If I were permitted a pun, I would say, in the words of the immortal poet, 'Honor the Light Brigade!'"

Whereupon a shrill voice came from the rear: "Oh, what a charge they made!"—*Journal of Education*.

## "EXPERIMENTS IN GOVERNMENT"

The editors of *The Market World and Chronicle*, which is published at 80 Wall Street, New York, have reprinted from their columns an article entitled, "Co-operation in American Business," which was contributed to *The Market World and Chronicle* by Elbert H. Gary, chairman of the United States Steel Corporation, and in a foreword the editors say:

"A danger ever present for democracies, or nations organized upon the democratic principle, is that they should lose their common and coherent purposes, should fall into divided and even antagonistic interests, and should forget the general welfare in the midst of the efforts of certain classes or sections to obtain an advantage over the others.

"It has been the unhappy history of democracies in the past that, . . . . they have later fallen into a kind of distraction and loss of creative energy through the inability of their citizens to remain steadfast to common principles—they have lost efficiency, and hence vigor and prosperity, because their domestic contentions have revolved about the desires of a part and not about the good of the whole . . . . This having been the experience of democracies in the past, it is not without reason that the great modern democracies, including our own, are still often called by thinking persons, experiments in government. In the minds of the judicious it is not yet an assured fact that these democracies will endure, but it is an assured fact, in the opinion of the judicious, that they will not endure, unless they can demonstrate their ability to think and act harmoniously, and yet sectionally or factionally.

"What has just been said obviously applies to the United States, and more today than ever before in the history of the country. To remain a triumphant democracy we must have broad and firm co-operation of thought and action . . . . This is the lesson of Judge Gary's article."

The editors say that Judge Gary's article is one upon a most important phase of American business progress. It is by an authority and they consider it a contribution of immediate interest to thinking men the country over. The editors of *The Market World and Chronicle* would like the opinion of business men on this article, and as GRAPHITE has received a copy it is fair to presume that the editors will be very glad to send copies of Judge Gary's article to any one who may be interested.

## FIFTY YEARS OF PROOF

Anyone can make claims, in fact most everyone does. You can use all the superlatives in the dictionary, but what is the real service record?

Dixon's Silica-Graphite Paint has been made for fifty years in *one quality* only—the highest grade. The vehicle used is pure, boiled linseed oil. It sells on its average yearly cost, wherein it has no rival. When you divide the many years of service into the first cost, Dixon's Paint is the cheapest per year for you.

Write us for long service records on bridges, tanks, cars, fences—in fact on every kind of metal, inside and outside of your plant. It is the most popular upkeep paint, as well as the best shop-coat paint. Made in four colors, attractive in appearance. Make us prove it; you be the judge. Performance talks best and in fewest words.

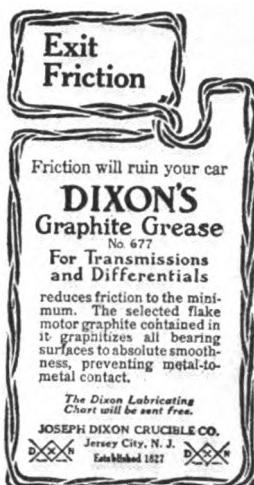
16

*Newspaperdom*

May 13, 1915

# An Original Plan for Following Up Newspaper Advertising—Co-operation That Counts

*By Louis H. Frohman*



HOW often we have read of the advertisement that brought would-be customers to the merchant, to find no salesman behind the counter with the least knowledge of the heralded goods. It is therefore a gratification to the advertising man when he finds application made of two fundamentals which when realized by the advertiser save much of this kind of waste.

To some manufacturers it may sound rather contradictory to be first told that they must be prepared to expect results from advertising, and, secondly, that they will not find it a magic wand to turn readers into customers. Yet

have but one conclusion. Before launching copy definite plans must be made for handling each inquiry that may result—not making the "follow-up" as stereotyped as cold type must be, but giving the feeling of real service-interest to the individual prospect.

An unusually good example of planning for maximum ultimate sales from newspaper space was effectively demonstrated to me a short time ago. The piece of small space copy reproduced caught my eye and the offer of something for the asking gained the advertiser my inquiry.

He had planned and was ready to "come back," not with the advertised chart to begin with, but with a well-worded letter telling me that the chart would arrive separately, reminding me that I had neglected to mention the make of my car, but giving general recommendations and referring to an enclosed booklet. This booklet was of convenient size and such general interest as to go into my pocket until the odd moments of several days allowed me to read it through.

The chart itself proved to be but the information of the booklet in tabulated form, having no direct selling value in itself, but it had accomplished an important duty in getting that original request.

As I innocently thought at the time, this was the end

of a thorough and dignified handling of an inquiry, leaving an impression of further service being available if wanted.

But this was not all. Bright and early one morning a well-built, energetic fellow stepped into the office. He evidently had real business to transact and started right in with the information that he had come to make sure the chart had arrived safely. Again the chart as an opening wedge.

The spirit was one of service, the questions asked bore upon the good of my car, not the sale of his product, and crystallized in his "prescription," being made up after comparing a specification sheet of the particular car, with tabulated schedules made up by his engineers.

Here was a "novelty" in advertising which proves more than a source for amused interest; it could be taken in downright earnest. Of course, the theory of it is that it flatters one to have their individual needs catered to, and that it gives a pleasant sense of positiveness to be

PRESCRIPTION	
For Your Chevrolet Model 1715	
DIXON'S No.	DIXON'S No.
Transmission	677 Thrust Collars
Differential	677 Steering Gear Housing
Universal Joints	676 Engine M.G. and oil
Wheel Spindles	Graphitobles Clutch
Grease Cups	3 Tires M.G.
Timing Gears	677 Chain
Pump Cups	676 Springs M.G. and gasoline

JOSEPH DIXON CRUCIBLE COMPANY,  
JERSEY CITY, N. J. U. S. A.

"An ounce of prevention  
is worth a pound of cure."  
Dixon's Graphite Auto-  
mobile Lubricants keep  
your car in good health.

(over)

Walter D. L.  
Spl. 474-1-15.

able to ask definitely for a thing by number or trade-name, but theory and practice coincided in my case at least. By the next trip to the dealer's I knew the numbers on that prescription, and found a certain gratification in getting exactly what I asked for.

This advertiser took his small space seriously. He made up his mind to get the most from each reply and knew the effect upon me, his prospect, that each step would have. In working out a campaign, if we can picture vividly enough the final step, the sale, our copy will only need such backing up as this to bring results.

Look behind this article, Mr. Auto Supply Dealer, Garage Man and Hardware Merchant! Mr. Frohman's verbal bouquet is not merely a tribute to the Dixon Company, it is your guarantee that we are not seeking a sale of Dixon's Graphite Automobile Lubricants without service and co-operation to help you dispose of the stock. Mr. Frohman was told of the nearest spot at which he could buy Dixon's and the spot, too, was informed of Mr. Frohman's desire for better lubrication. Let us help you make Dixon's Graphite Grease No. 677 for

transmissions and differentials the most popular automobile lubricant in your vicinity. A set of ready-made, electrotyped newspaper advertisements is yours for the asking. Also metal signs for entrance; road and fence work and photo-testimonial window display cards of all of the prominent racing drivers. Booklets, posters, folders and everything to create desire and stir a demand are ready. A request is all that's needed to start them along. Get acquainted with the Dixon idea of helping-the-sales-along. Write your request today.

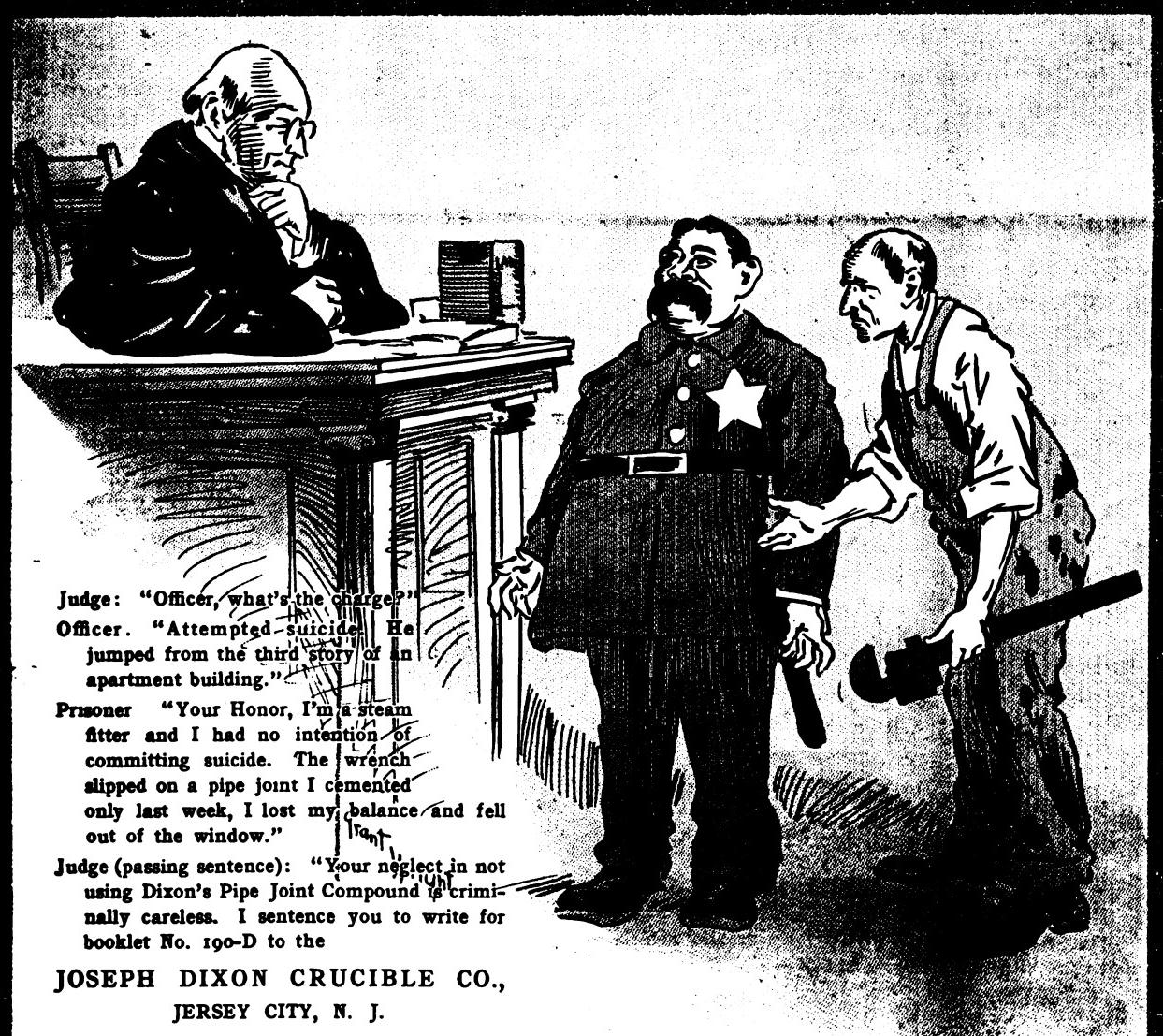
# Graphite

Issued in the interest of Dixon's Graphite Productions, and for the purpose of establishing a better understanding in regard to the different forms of Graphite and their respective uses.

Vol. XVII

November, 1915

No. 11



ESTABLISHED 1827



INCORPORATED 1868

**JOSEPH DIXON CRUCIBLE CO.**

JERSEY CITY, N. J., U. S. A.

**Miners, Importers and Manufacturers of Graphite,  
Plumbago, Black Lead.**

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**CUBAN AGENTS**

For all Products Except Dixon's American Graphite Pencils  
William Croft, Room 424 Lonja del Comercio, Havana

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For Dixon's American Graphite Pencils, Etc.

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**GRAPHITE**

November, 1916.

**LUBRICATION**

**What it Consists of. How it Acts Against Friction, the  
Retarding Force**

Lubrication consists of placing between two surfaces that have relatively great friction a cushioning and almost frictionless substance that will separate these surfaces and enable the parts to move with the expenditure of less power.

Friction is the retarding force that tends to prevent movement of all parts which are in motion. It is caused by the interlocking of tiny projecting particles which extend from the surfaces of all substances like the surface of a file, regardless of their nature or the fineness of finish.

Power is required to overcome friction in all cases, and the greater the amount of friction, the more power will be needed to overcome it.

In some parts enough friction exists to cause the parts in contact to become so hot that they swell and consequently bind together.

The principal lubricating mediums commonly used are fluid and semi-fluid oils and greases derived from both mineral and animal sources.

Flake graphite, one of the most important lubricants known, is a form of crystalline carbon.

The cylinders are the most difficult parts of an automobile to lubricate satisfactorily on account of the heat generated, and great care is necessary in selecting oils for this purpose. By adding about one teaspoonful of ground flake graphite to every gallon of cylinder oil, it is possible to carry to all surfaces a material that is finer than the most minute pores of the metal and which will gradually cover the metal with a film which heat cannot destroy easily. The benefits derived from the use of graphite in oil are many, for with continued use all the bearings, cylinder walls, and piston rings are protected by a lubricant which coats the metal.

All graphite is not lubricating graphite, however, nor is all lubricating graphite suitable for use in cylinder oil. Care must be exercised and only finely ground flake graphite of the best quality should be used.

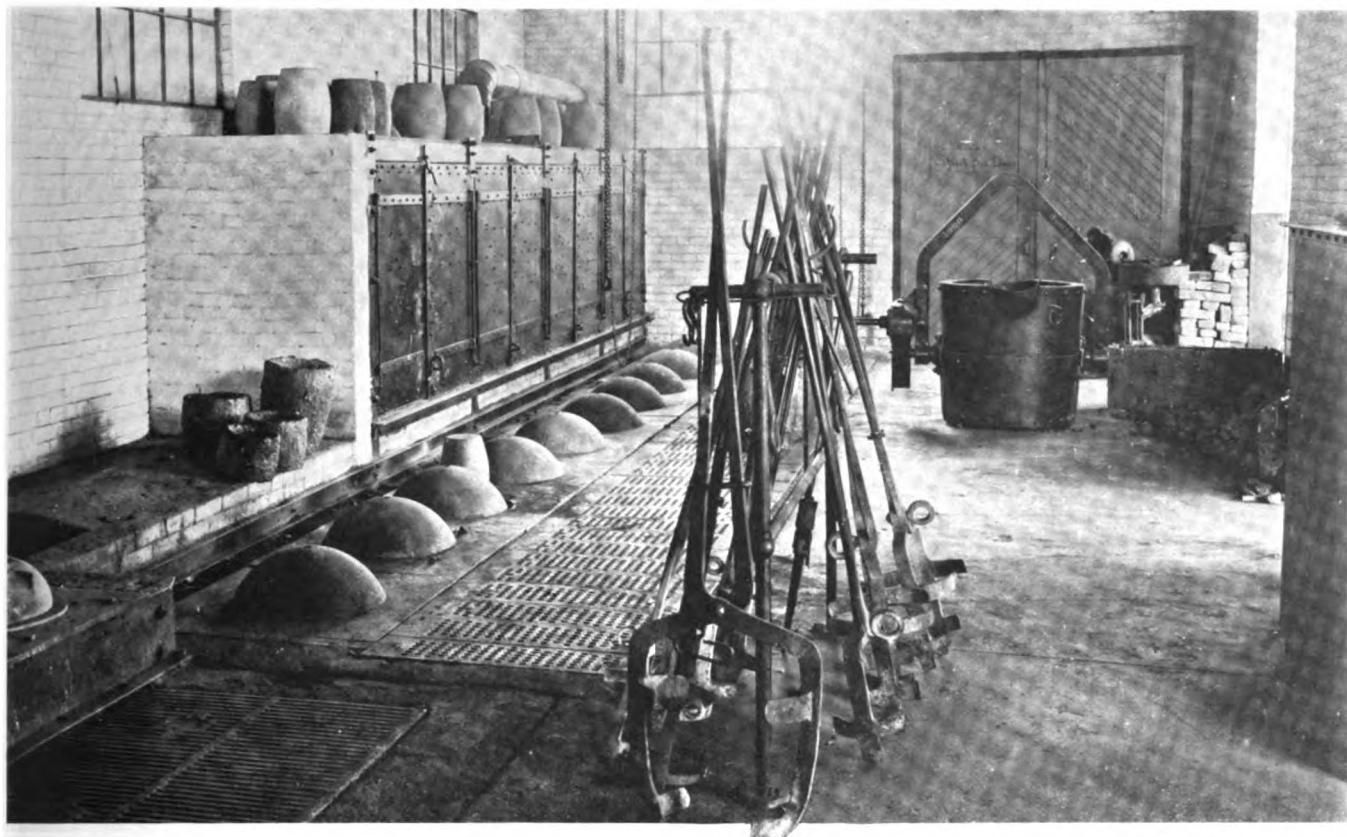
The above is taken from *The Haynes Pioneer*, the house organ of the Haynes Automobile Company, manufacturers of the Haynes "Light Six," of which it is said:

"As you step on the foot throttle, and the Haynes glides away like a bird, you will experience an exhilaration you have never before known. The Haynes 'Light Six' will make thirty miles per hour in seven and one-half seconds from a standing start with a full load. When you come to those car tracks at the foot of the big hill, you can slow up until the speedometer almost refuses to register, without shifting from high. Then open her up all at once if you wish. You can't choke up the Haynes with its big, short throat. As you soar up and over the hill, still on high, there will be a broad smile of satisfaction on your face."

And we may add that the broad smile of satisfaction on your face will always be there if Dixon's Motor Graphite is used in your cylinders, and the Dixon Graphite Grease No. 677 in your differential and transmission.

"SO WHAT signifies wishing and hoping for better times? We may make these times better, if we bestir ourselves."

—BENJAMIN FRANKLIN.



#### ELECTRICALLY HEATED CRUCIBLE OVENS

The interesting part of the above photograph from the Brass Foundry of the Titanium Alloy Company at Niagara Falls, New York, is the electrically heated crucible oven.

This electrically heated oven, Mr. W. W. Corse, manager of the bronze department, states is superior to any way he has yet seen for keeping the crucible, when not in use, at a uniform temperature.

Mr. Corse further states: "You will note that the oven is made of brick, with the exception of the front which is composed of sheet iron doors lined with asbestos. In the oven are three heating units made from resistance wire. The power is turned on to these three heating units at night so that about fourteen hours heat during the day is obtained. The oven retains its heat nicely over the working period and the crucibles (we forgot to mention that Dixon Crucibles are used—as a matter of Corse) are very warm and dry when they are ready to be used. This type of oven should be used by more foundries than at present."

Mr. W. W. Corse was formerly manager of the Lumen Bearing Company, Buffalo, N. Y., which position he resigned to accept the management of the bronze department of the Titanium Alloy Company, Niagara Falls, N. Y.

In connection with the above, Mr. Corse is also secretary of the American Institute of Metals, which has made a name for itself under Mr. Corse's skillful guidance, in the scientific and practical world.

DOCTOR HAMILTON A. HAYNES, pastor of Grace Memorial Presbyterian Church, has recovered from his recent illness, caused by a carbuncle on his neck. His subject for next Sunday night will be, "Is there a Hell?"

—*Evansville (Ind.), Courier.*

#### SPANISH AND RUSSIAN

##### *Knowledge of These Languages Needed for Export Trade*

Special agent Stanley H. Rose of the Bureau of Foreign and Domestic Commerce, says:

"I guarantee that there is not a single export or manufacturing house in the whole of Germany, where there are not at least three or four employés able to write and converse fluently in the English, Spanish, and French languages. How different is this in the United States! The average business house, receiving a letter in Spanish, has to send it to a translation bureau in order to find out what the correspondent has to say and then more often than not a reply is sent in English, a language very little understood by the average Latin American importer. Needless to say, a letter such as this has not fifty per cent of the effect secured by a letter written in Spanish by a competitor."

"Another language which, although not needed as much as Spanish, will be a great asset in the near future to any young man learning it, will be Russian. It is my firm conviction that our postbellum trade with Russia will be immense and any American business man going to Russia and having a working knowledge of the language of the country, will have a decided advantage over any one not familiar with that language."

#### THE PAINT WITH THE "PLUS"

The added value is in the *longer service* that Dixon's Silica-Graphite Paint gives upon metal work. There are paints and paints. It is to the consumer's interest, when he makes a selection at his dealer's, to choose that paint which lasts longer and thus saves him the added cost of more frequent repainting.

Dixon's Silica-Graphite Paint is the "paint with the plus" of longer endurance.

## THE OLD, OLD STORY

Taken from "The American Mail and Export Journal"  
Dated 1881

During the past few months, much and very much has been said and written relative to the United States having a merchant marine.

It will be thirty-five years on January 1, 1916, since the following was printed in *The American Mail and Export Journal* under the caption of "Steam Communication with the Argentine Republic."

"The disgraceful fact that for many years an American steamer has not been seen in the River Plate is now, we hope, in a fair way to be 'wiped out.' When this consummation shall have been accomplished, and when the American flag, flying from the masts of American steamers, shall be hailed again in those waters, the wonder will be that we permitted this international disgrace so long. It is humiliating to say, but it would seem that we have been for years as completely bound by foreign ship owners and capital as if we had been enslaved thereto. Neither are we free of their entanglements yet, but it does look as if we were nearing the time when American legislators and American merchants shall join hand in hand for the enfranchisement of our commerce, and when our American steam marine shall proclaim this enfranchisement on every sea.

"Our supineness in regard to our commercial relations with our continental countrymen of South America has been most remarkable. With the utmost desire on their parts for the closest social, political and commercial intimacy with the people of this republic, we have let our flag disappear from their seas and permitted Europe to run off with their trade.

"A recent visit to the Argentine Republic, by an agent of the Roach line of steamers, reveals a most anxious feeling on the part of both government and people for direct steam communication with the United States, and that the Argentine Congress, under President Sarmiento, had voted a standing subsidy of \$20,000 a year to any company that would run a line of steamers between Buenos Aires and any port in the United States. In 1878, at the request of the American Minister, President Sarmiento had this increased to \$25,000, when it was thought the Roach line would be induced to supply the communication. President Sarmiento assured both the agent and the American Minister that not only were the government and people most anxious for the project of drawing the peoples of both republics into closer commercial and social relations, but that then—although he was going out of office in a few days—he would send in a message to Congress asking that the subsidy be increased, if the agent would guarantee a response by his company. It was considered best to delay action until the inauguration of President Roca, who is a most progressive man and warmly interested in any project for the enlargement of commercial relations between his country and the United States.

"The great drawback to the establishment of steam communication with the Argentine Republic is, that our government will do nothing to aid in its establishment, and it needs no large conception to understand the fact that such a project could not pay at the outset. Our Congress, being frightened by the word subsidy, is like the dog who loses the substance by grasping at the shadow—for it permits all of our trade with

South America to be carried on under foreign flags—besides permitting Europe to run off with that immense portion of South American trade which would be ours under patriotic auspices.

"The manner in which our trade with the Argentine Republic is conducted at present is a curious illustration of how our commerce is literally butchered by foreign steamship companies—which, of course, can have no particular interest in increasing it at the expense of their own. At present, the Lamport & Holt line, of Liverpool, dispatches two steamers monthly from Buenos Aires with Argentine products to the United States, but these steamers then sail to Liverpool and carry back British manufactures. This company, like all foreign companies, is willing to bring us the raw material from South America, but it is not willing to carry American manufactures thither in return.

"We submit that it is about time that our government should assume some of the duties which should characterize the government of a republic—doing that which is best for the protection of all its people. Every shipload of American manufactures going abroad and every American steamer conveying the same, mean so much profit to the entire people. Per contra, by allowing our trade to languish and by permitting foreign shippers to do our carrying, the government simply permits the people to be robbed."

Commenting upon the foregoing article, the editor of *Marine News* writes:

"A perusal of the proceedings of the four Pan-American Conferences, beginning with that in 1889, will also show that, strange as it may seem, the republics of South America always have been more generously disposed toward an American merchant marine than has the government of the United States. Not only has Argentina offered to subsidize American steamships of direct lines, but Brazil and Chile have made similar offers, all contingent upon the United States doing its share, and the nation that always has reneged has been ours. The recent Pan-American Financial Conference disclosed, on the part of the delegates from the Latin American republics, the same generous spirit toward American ships and the same earnest desire for more frequent, more rapid and more direct steamship communication between those republics and ours. As usual, the United States is indulging in a lot of talk. It wants something for nothing; the Latin American republics realize that to have what is needed it must be paid for. The United States dreads the possibility of American capital earning a profit in steamships in foreign trade. If ever we can raise a sufficient number of philanthropists who will be willing to bid good-bye to their money, and whose philanthropy runs in the direction of establishing steamship lines such as are needed, but to be run at a loss, then—and it sometimes seems not until then, if ever—shall we have an American merchant marine."

## NEW USE FOR DIXON'S STOVE POLISH

POLLY FOOTLIGHT—"Here, sister, is a package of stove polish."

DOLLY LIMELIGHT—"Why should I need a package of stove polish?"

POLLY FOOTLIGHT—"Oh, to use on the range in your voice. It is getting a little rusty."

## DIXONITES WHO PENCILIZE THE COUNTRY



No. 2—PHIL MEYERS OF NEW YORK

There are so few people who really know much about lead pencils that it is a pleasure to find a man who has a thorough knowledge of the subject. For thirty years Mr. Philip H. Meyers has been with the Joseph Dixon Crucible Company and has studied thoroughly all Dixon's products. He has given particular attention to lead pencils and in talking to him one readily sees that he knows a pencil from the beginning to the end.

All of the large buyers of lead pencils in the Metropolitan territory know Mr. Meyers. With most of them he has a very close personal acquaintance.

Besides being a specialist in Dixon's Pencils, Mr. Meyers is a fisherman; in fact, when he is not selling pencils he is fishing and he has established a reputation for catching them that has made it unnecessary for him to exaggerate the size of his "catch." Doubtless the same close study and stick-to-itiveness that has made him a successful fisherman for years has also made him a successful Dixon Pencil salesman.

## STATIONERS HONOR PENCIL MEN

"At the time of our organization," said the chairman of the nominating committee, "we established the custom, since uniformly followed, of nominating for the office of First Vice President, a manufacturer who has been conspicuously loyal in his support of and co-operation with the association. We therefore report our nominations, etc." And then followed the nomination and election of Edward E. Huber, General Manager of Eberhard Faber, New York, as First Vice President of the National Association of Stationers and Manufacturers. Following the selection of officers came that of the Directors and another honor was conferred upon the pencil industry when J. H. Schermerhorn, Treasurer of the Joseph Dixon Crucible Company, was nominated and elected a Director (Manufacturer's Division).

"IT IS certain that the man who understands and applies sound principles will make a greater success than the man who guesses or imitates."

## WHEN A PENCIL IS NOT A PENCIL

**It Was When This Railroad Agent Asked for a Dixon's Eterno and Got Merely an "Indelible" Pencil**

The Northwest is particular about the pencils it uses. This fact is brought to light by the letter of a railroad agent who needed a good dependable copying pencil and who shared his thought concerning this need with a local stationer. "It costs too much," said the latter, "I cannot afford to handle Dixon's Eterno No. 2050." So a customer was displeased and a profit was lost.

When one of a stationer's customers writes: "I need a dependable copying pencil but cannot buy it here. I have used Dixon's Eterno a long while and cannot get along with an "indelible" pencil the — market offers. Since the dealer will not sell your goods I cannot see why he should enjoy my orders," it is time for that stationer to do some mental house cleaning. Don't you think so?

Failing to find that which his experience and judgment declared to be the best pencil of its kind, our good friend appealed the case to us. It is, perhaps, in order to record that this railroad agent wrote happily ever after.

## HOW ABOUT THAT VACATION ALBUM?

Don't deny that you haven't any vacation pictures. If you didn't take them your friends did, and if you haven't mounted them in your album, you should. But perhaps you have done all of this and still neglected the most interesting and important thing of all. Every picture should have a title that should answer the who, when, which, where and how inquiries of your friends. Photo albums with descriptive titles become something of interest rather than a bore to your waiting callers. Too much trouble? Don't want to bother with a feathery pen and a messy bottle of white ink? Then don't. There's a neater, more cleanly, convenient and quicker way of marking in your album. Insist that your stationer, photo supply dealer or photographer furnish you with a Dixon's Best White No. 352 Crayon Pencil. There are many other uses for Dixon's Best White, such, for instance, as marking proofs, blueprints and all other dark rough finished papers and, if you happen to be a woman, for making designs, patterns, etc., upon all dark cloths. You will find more uses for a Dixon's Best White and before long you will wonder how you ever got along without it. At any rate, fix up that album before you forget what the pictures are about. Remember, pictures without titles are only half complete.

## CONCERNING SALESMEN

Salesmen are individual and as temperamental as actors. They must be optimists and enthusiastic. And nobody can be truly optimistic and enthusiastic all the time, every day, every week, the whole year round. But the salesman must at least appear so, and sometimes the strain is heavy. We all know the frequent stories in which the comedian, or comedienne, makes the audience laugh while he is in the depths of despair over the deathly illness, or other misfortune, of some greatly loved one at home. Well, salesmen have their troubles, also, and applause is more stimulating than hisses.

—*Printers' Ink.*

## THE USE AND ABUSE OF BALL AND ROLLER BEARINGS

By F. J. JAROSCH

*Chief Engineer, Bearings Company of America*

CONTINUED

### III. MATERIAL

Ball and roller bearings should be made of a material which can be hardened uniformly throughout, combining a very high degree of hardness in order to resist wear to the highest extent, and elasticity in order to resist shocks or sudden changes of load.

In the earlier stage of ball and roller bearing manufacture, the races and rolling members were made of case-hardened material. Later on ball bearing makers, compelled by the steadily increasing task on ball and roller bearings brought about by the rapid development of the automobile industry, searched for a bearing material of higher quality. They experimented for some time with crucible tool steel, but such steels did not meet the requirements, as some were too brittle and not elastic enough after heat treatment, and others could not be hardened sufficiently uniform over the entire surface. Further experiments developed the chrome alloy steel which now is used by almost all the ball bearing and also by some roller bearing manufacturers. The ingredients of this steel are from .9 to 1.2 per cent carbon, 1.3 to 1.6 per cent chromium, .25 to .35 per cent manganese, and from .19 to .24 per cent silicon. Phosphor and sulphur are detrimental and should be eliminated entirely, but if this cannot be done, the amount should not exceed .02 per cent.

Bearing races of chrome alloy steel are hardened by heating them up in a bath of baric chloride ( $BaCl_2$ ) and potassium chloride ( $KCl$ ), which prevents an overheating of the skin. This bath is kept, by a gas or coal fire, at a steady temperature which is controlled by a pyrometer. The races are put into this bath, and dipped up and down for a certain limit of time, depending on the thickness of the material. Some manufacturers use special furnaces for heating up the races. The heated races are quenched in oil and afterwards tempered in a water-cooled oil bath. The hardening of steel balls is very similar, except that the balls are heated up in specially designed automatic operating furnaces. After hardening, the races and also the steel balls have to pass a number of inspections concerning the degree of hardness and elasticity. The high strain to which radial ball bearings and roller bearings in an automobile are subject requires that they be made of a material of the highest quality, and therefore the use of case-hardened material should be avoided. In such material there is always a certain change of structure below the hard surface. If the material is only skin-hardened, that is, the hard shell is very thin, then continued load stresses will soon cause a flaking of the hard surface, resulting from a loosening of the soft portions of the material from the harder ones. This flaking once started, will increase more and more, and will finally affect the entire load-carrying surface of the bearing. Furthermore, a bearing of a given size made of case-hardened material is far inferior in load-carrying capacity to a bearing made of chrome alloy steel, and although the former may be made interchangeable with the latter in dimensions, it surely will not be interchangeable as far as carrying capacity is concerned.

In regard to defects in material of races and rolling members, such defects are mostly due to improper treatment during the process of hardening, as most of the bearing manufacturers inspect the material before it enters the workshop. If the material is overheated it will become brittle and lose more or less of its elasticity, and consequently will easily crack when subjected to shocks or heavy loads. Such material also will soon break off or scale off, affecting the raceways and rolling members, and thus making the bearing unfit for further service. Strongly overheated material, or, in other words, burned material, should always be discovered by inspection and should be rejected. Under-heated material will be soft, and when subjected to heavy loads will be excessively deformed, even beyond its elasticity, thus increasing the friction and also causing quick wear. It also may occur that the surface of contact of races and rolling members, under influence of the heavy pressure of the load, will become rolled hard, and finally peel off from the softer portions, thus making the races and rolling members rough, which condition finally leads to the destruction of the entire bearing.

Slight imperfections or careless handling of the material during the hardening may cause soft or too hard spots on the races or rolling members, which soon will show up by a breaking off or peeling at these points. If the material is cooled off too quickly or unequally, and not sufficiently tempered, there will remain a partial strain in the structure of the material, which will cause a cracking of the races or rolling members when subjected to shocks or sudden changes of load. From this it will be realized that the hardening of a high-class ball or roller bearing material needs very close attention and long experience.

### IV. WORKMANSHIP

In order to make ball and roller bearings of different makes interchangeable, they must be made to standard sizes in inside diameter, outside diameter and width, and also the tolerances for these three principal dimensions should be as small as possible. Of course it has to be realized that working to fine limits means a high cost of production, and naturally tolerances and the cost of production have to be held to reasonable limits. The following table shows standard tolerances for the outside diameter, inside diameter and width of radial ball bearings as adopted by the S. A. E. at their winter meeting January, 1914, but it may be stated that these figures give the extreme limits to which ball bearings are to be manufactured, and, as a matter of fact, most of the high-class bearings are made within considerably smaller limits.

Bearing Nos.	Outside Diameter		Inside Diameter		Width For Both Races	
	Plus	Minus	Plus	Minus	Plus	Minus
200-204	0	.0006	.0002	.0004	0	.002
300-303	0	.0006	.0002	.0004	0	.002
205-216	0	.0008	.0002	.0006	0	.002
304-313	0	.0008	.0002	.0006	0	.002
403-411	0	.0008	.0002	.0006	0	.002
217-222	0	.0012	.0002	.0007	0	.002
314-322	0	.0012	.0002	.0007	0	.002
412-420	0	.0012	.0002	.0007	0	.002

All dimensions are given in inches

The inner and outer faces of the bearings are ground, and must be absolutely parallel when the bearing is assembled. The sides of the races are also ground, and must be absolutely at right angles with the inner and outer faces in order to secure a proper seat on the shoulders of the shaft, and in the housing. Raceways and rolling members are ground, and should be highly polished, because the smoother the surface the less friction will be produced.

The balls or rollers should be absolutely uniform in size and shape. In ball bearings, a difference in the size of balls will cause the larger balls—when passing the zone of the highest load pressure—to take more than their share of the load, and then, consequently, will have to withstand a greater deformation than the smaller balls, while the latter in some instances will be compelled to slide. This condition will result in a breaking or flaking off of portions of the raceways and balls. The defect will show up stronger and quicker in bearings operating at higher speeds than in bearings running at slow speeds, as at high speeds the load is applied upon the balls in much quicker succession than at slower speeds, and also because the safe load of a ball decreases as the speed increases. As a matter of fact, steel balls, as used for high-class ball bearings, are guaranteed to be absolutely spherical, and made uniform in size to a tolerance of .0001", which is accomplished by the use of special gauging machines. In order to secure absolute uniformity of the size of the balls in a ball bearing, some manufacturers have specially designed gauging machines to select the balls for every individual ball bearing.

In roller bearings with rollers of unequal size, the large rollers will be affected in about the same way as the larger balls in ball bearings, while the smaller rollers, running more or less loosely between their races, will lose their alignment and wedge, that is, the rollers will roll obliquely until pressed against the side shoulders of the races, then return suddenly to their normal position, and will again roll sideways, and so forth. This wedging of the rollers will produce a considerable amount of end thrust and friction, which will cause quick wear of rollers and races. The same wedging will occur in case the rollers are not exactly of the same shape, that is, not exactly cylindrical in straight roller bearings, and not exactly of the same taper roller bearings. It is quite difficult to grind rollers absolutely uniform in size and shape, and therefore, in regard to safe loads at high speeds, a higher factor of safety should be observed for roller bearings than for ball bearings.

Ball and roller bearings should not be assembled too tightly, as such a condition will put the balls or rollers under a slight pressure before they do any actual service. Assuming that the inner race of the bearing will always be mounted with a tight fit, or even a press fit, on the shaft, and taking into account that the rolling members are assembled tightly between the races, the expansion of the inner race, caused by the press fit on the shaft, will produce a heavy pressure on the rolling members. Consequently all bearings should be assembled with a slight radial shake, which, in most cases, will be eliminated after the bearing is mounted on the shaft.

#### V. SELECTION OF TYPES AND SIZES OF BEARINGS

Before selecting the type and size of a ball or roller bearing for a certain purpose, the maximum amount and the direction of the load, and also the maximum speed under which the bearings will have to operate, should be determined. It also should

be considered whether the bearings will have to withstand shocks, vibration or sudden changes of load or speed, in which case certain factors of safety must be observed.

For straight radial loads, ball bearings of type Fig. 1 or roller bearings of type Fig. 5 are recommended. A ball bearing of type Fig. 1 is guaranteed to take also an axially directed load amounting in maximum to twenty-five per cent of the rated radial carrying capacity. For straight axial or thrust loads, a ball bearing of type Fig. 2 or Fig. 3—or in case the thrust load changes from one direction to the opposite direction—a double thrust bearing made up from one of the types Fig. 2 or Fig. 3 will have to be considered. Ball thrust bearings should never be subjected to any radially acting loads. For combined radial and thrust loads, a ball bearing of type Fig. 4 is usually recommended, but observing the principal idea of high quality work, and the long durability of an undisturbed bearing service, it will always be the better practice to provide a straight radial bearing for a radially directed load, and a separate thrust bearing for an axially directed load.

*(To be Continued)*

#### A PAINT STORY STARTED NINETEEN YEARS AGO

*A Tale Recorded Upon Wood, Uprooted and Transported and Still Unfinished*

Do you ever feel annoyed with house painting, painters and paint? Do you ever believe that the time for repainting comes around too often? Do you ever want to do something different in the way of house, cottage, barn and outhouse painting? If so, heed the experience gained and related by Mr. Frank C. Hooper, manager of the North River Garnet Company, North River, Warren County, N. Y.

Just nineteen years ago it occurred to Mr. Hooper that to paint every two or three years was foolish as well as expensive. Why not paint but once and save the labor cost of frequent repainting? Mr. Hooper believed that the cost of paint is but a small item in any painting job, but that the quality of the paint often determines just how much the job will cost. Acting upon his beliefs thus formed, this alert manager determined to use only the paint which could give the longest service.

The mill, outbuildings and some workmen's cottages of the company needed painting and so Dixon's Silica-Graphite Paint, of a natural graphite gray, was used. In order to relieve the dark appearance of the work upon the trimmings, white lead was mixed with Dixon's to obtain a lighter shade of gray. Nine years later five of the workmen's cottages were uprooted, packed upon lumber sleighs and moved to the new plant of the company five miles away. Only in spots where the transportation had injured the paint was any repainting done. And now, says Mr. Hooper, "although these cottages were painted nineteen years ago, the painted surfaces are in fine condition today."

#### CORRECT

"Bill," said Old Jerry, "how would you punctuate this here sentence: 'A hot bearing developed an' th' engineer discovered that he hadn't any flake graphite?'"

"Wy," said Bill, "I'd put a period arter th' graphite."

"I wouldn't," said Old Jerry. "I'd make a dash arter it!"

*—Adapted from National Monthly.*

## SOUTH AMERICA

By ALFRED J. EICHLER

After a residence of three years in South America, with headquarters in Buenos Aires (which I call my home), and where most of my time was passed, I find myself once more renewing old acquaintances and threading my way through dear old Boston's crooked streets. This is all very pleasant. The readers of the "Walworth Log"\*\* need not, however, waste their sympathy on any of their friends exiled(?) to Buenos Aires—the wonderful Paris of South America, with its population of more than a million and a half, beautiful boulevards, theaters, hotels and clubs. The Buenos Aires Opera House, perhaps the finest in the world (where I was fortunate enough to hear Caruso sing), is visited by all the great opera stars. Clubs and hotels for almost every nationality are also here. The American citizens have a society called the "American Society of the River Plate," with a membership of over three hundred. There is also an "American Commercial Club," composed of some eighty leading American manufacturers. So you see there are facilities for diverting the homesick thoughts of the poor exile (?).

The export business, of course, is exceedingly interesting, as we meet in competition the representatives of all the leading manufacturers of the world. I am glad to say that in the last few years the American manufacturers have made great progress in adopting methods which are equal to any European competitors. While we are already a strong factor, it may be some years before we can truthfully say we are as firmly entrenched in the South American trade as our European friends. We should bend every energy to develop along four distinct lines:

**First:** We must present our material by proper representatives who can determine quickly when a line does not answer requirements and be ready to offer the necessary modifications.

**Second:** We should have an American merchant marine that we may be able to deliver material to South American points as cheaply and as promptly as the Europeans.

**Third:** We must have American banks at all distributing centers. Fortunately, some of these have been already established.

**Fourth:** American capital should invest in steam and street railways, lighting companies and in all public utility enterprises. Most of such ventures are now controlled by European capital, which naturally influences large orders for material which we are in reality in the better position to furnish.

I would strongly recommend that all Americans who like to travel, after they have seen America first, take a trip through South America, as they will find the journey not only very interesting and pleasant, but very educational as well.

Should any of our readers visit Buenos Aires, I hope they will call at our office. It is good to see a face from home and it will give me pleasure to try and add to their enjoyment.

\*This article is from "The Walworth Log," the house-organ of the Walworth Mfg. Co., for which concern Mr. Eichler is manager for South America.

"THO days be dark and trade be tough, it's always well to make a bluff, to face the world with cheerful eye, as tho the goose were hanging high." —WALT MASON.

## HOW TO INCREASE YOUR HEATS

Once upon a time every foundryman studied the care, the use and abuse of crucibles. How many of these tricks of the trade have you forgotten? How much is the careless handling of crucibles costing you each year? We forget to teach others what we learned ourselves. And sometimes when we do not forget, we think it too commonplace to mention. We take it for granted that others know of the simple little things that, for instance, save in the cost of crucibles. There's a score of don'ts as important as they are simple, and if all were attractively printed upon cards ready to be hung up about the scenes of operation, they would save money for the crucible buyer. If all you had to do in order to obtain such cards were to sit down and write a postal for them, would you do it? Of course. Very well, then the address is the Joseph Dixon Crucible Company, Jersey City, N. J. Tell them how many cards you need and you will get them without obligation. If the thought occurs to you after reading this paragraph that a certain crucible manufacturer is not satisfied to merely sell his product and let you shift for yourself concerning the use of that product, why let the thought germinate, mayhap it will do the manufacturer some good.

## EDUCATION

It is no disgrace to be poor; it is sometimes a disgrace to be rich; it is always a disgrace to be ignorant. Ignorance implies not lack of opportunity, but lack of ambition. A good education is a guarantee of a man's willingness to work, and his ability to accomplish. There is no royal road to learning; every step of the way must be won by hard, sweaty labor. But an education is worth every effort that it takes—not for the mere dollars and cents that it will bring, but for the power that it gives a man to get and enjoy the best things in life.

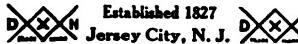
—From the Bulletin of the American School of Correspondence.

DIXON'S selected *flake* motor graphite is the only form of graphite fit for auto lubrication. It won't ball-up or squeeze out under pressure. Try

**DIXON'S**  
**Graphite Grease**  
No. 677  
For Transmissions  
and Differentials

It eliminates friction  
and wear.

We have a Lubricating  
Chart that tells just  
what Dixon Graphite  
lubricant to use in  
every part of the car. A  
request brings it—free.

JOSEPH DIXON CRUCIBLE CO.  
 Established 1827  
Jersey City, N. J. 



# STUTZ-ANDERSEN-DIXON

The Combination of Car, Driver and Lubricant Which  
Won the Recent Astor Cup Race



Gil Andersen, the sturdy scion of an old Norse family, drives a Stutz Racing Car which, by the way, is as sturdy as its driver. Andersen drives a Stutz and lubricates it with Dixon's Graphite Automobile Lubricants, because he believes it to be the finest racing car made in America and superior to all foreign makes. He lubricates with Dixon's because, as he says: "All of our (Stutz) notable winnings were made while using Dixon's Graphite Automobile Lubricants, which for several seasons have been used by Stutz racing teams."

All this, however, is incidental to what Andersen had accomplished in this, his first great successful year in automobile racing. At the Elgin Road Races in August, Andersen and his team-mate, Earl Cooper, made the meet seem like one continuous streak of white to both spectators and contestants. Andersen first captured the Elgin National Trophy Race from Cooper at an average of over seventy-seven miles an hour. Cooper then turned the tables on the winner by taking first place in the Chicago Athletic Club Trophy Race at an average of nearly seventy-five miles an hour. Cooper, who is the best liked of racing drivers, believes that the best of lubrication is none too good for his little white Stutz racer. He therefore says, "Dixon's Graphite Automobile Lubricants are about as necessary to a racing car as gasoline. I like that kind of lubrication for my little Stutz."

The following month in the Twin City (Minneapolis and St. Paul) Speedway Race, these remarkable drivers again demonstrated the right of the Stutz to first and second places. Andersen raced at an average of 96.35 miles per hour and finished one quarter of a second behind Cooper, who won first place and \$20,000 prize money. Time at the finish of this race

was worth at the rate of \$2,400,000 per minute to Gil Andersen. Andersen's triumph in the West seemed merely a preparation for his greater success in the Vincent Astor Cup Race upon the new world's greatest speedway at Sheepshead Bay. In this race, witnessed by more than 60,000 persons, Andersen and his Stutz showed the way to the finish line to a field of the world's most noted racing drivers in the world's record time of 102.56 miles per hour. In this, as in other races, the winning Stutz was followed closely by another and it was Cooper, substituted for Rooney, who again finished in second place behind Andersen. It is not surprising that the remarkable series of contests in which these drivers have figured so prominently has placed Cooper as the champion racing driver of 1915 and Andersen as runner-up to the champion.

"Words of Wisdom from the Speed Kings," the little booklet distributed at the recent Vincent Astor Cup Automobile

Race, pictures a majority of the drivers entered in that big speedway classic. New faces among the forty-four photographs of the most prominent racing drivers that appear in this notable booklet gallery are Resta, Chevrolet, O'Donell, Porporato, Alley, Orr and Ruckstell. The booklet is printed in colors throughout. At the speedway, it proved to be a welcome souvenir of the race and an interesting supplement to the official program. Racing enthusiasts and others who look upon lubrication as a matter of vital importance to their cars may obtain a copy of this booklet free upon request.



## ARE YOU "ON THE FENCE" ABOUT PAINTING?



If so, ask the fence manufacturers which protective paint they recommend. The illustration shows a woven wire fence erected by the J. W. Fiske Iron Works for the Jas. Shevlin Estate, Saratoga, N. Y. Insist upon getting Dixon's Silica-Graphite Paint! It means longer service! No bother and expense of frequent repainting! Made in first quality only for over half a century. Write for booklet No. 190-B.

JOSEPH DIXON CRUCIBLE COMPANY

- Established 1827 -

JERSEY CITY, N. J.

## DIFFERENCE IN SEASONS

Some years ago, when one of the young ladies of the Dixon Company made a trip to South America in August, comment was made by some of her friends as to why she should have gone to South America in August, when it must be decidedly hotter there than in New York.

A letter from Mr. H. Seller, assistant representative of the Dixon Company at Buenos Aires under date of August 18, has the following:

"Trains are still unable to cross the Andes owing to the heavy and continued fall of snow. I had to return to this office and it was a choice of coming across by train or going round through the Straits of Magellan by boat which is a difference between two days and fourteen days.

"On June 13 a train left Santiago for Buenos Aires and I was fortunate in catching this train, which put me in Buenos Aires on the 16 after a little interesting but trying experience, having had to cross the most difficult parts on mule back, which occupied about eight hours.

"Since the end of June and up to the time of writing no other train has made the journey, and it does not seem likely that the trains will be able to resume their normal traffic for at least another couple of months, and correspondence in consequence is considerably delayed between this East Coast and the West Coast points. In fact every year, between the months of June and December, the same conditions have prevailed in regard to the traffic across the Andes."

## DIXON'S SILICA-GRAPHITE PAINT IN FLORIDA

Florida is more or less the state of sun, shower, fruit, winter resorts and various other attractions, including Dixon's Silica-Graphite Paint.

The Dixon Company recently received a letter from Mr. A. Roberts, contracting painter of Salem, Fla., who wanted us to communicate with a certain lumber concern in a nearby city.

"They need about seventy-five gallons of paint and I have recommended Dixon's Silica-Graphite Paint. Four years ago I painted one of this concern's smokestacks with Dixon's Paint, and today there is not a speck of scale or rust to be seen on the stack. One year ago I painted another stack for them with a competitive paint and the smokestack today looks as if it had lain on the bottom of the Atlantic Ocean for five years."

The Dixon Company does not try to sell its paint by knocking its competitors. We can fully occupy our time by confidently recommending Dixon's Silica-Graphite Paint as the *longest service*, and therefore the most economical paint, when the many years of service are divided into the first cost.

One thing we do notice among owners of metal structures, is a carelessness regarding paint. There is just as much reason to choose the best paint as there is to choose the best steel, for all economy depends upon the cost of yearly service. It is of the highest importance for owners to insist upon the highest quality protective paint for metal work and see that it is properly applied by experienced painters.

Mary poisoned Grammy's tea;  
Grammy died in agonie.  
Papa was extremely vexed  
And said to Mary, "Now, what next?"

## MANY USES TO WHICH GRAPHITE IS PUT

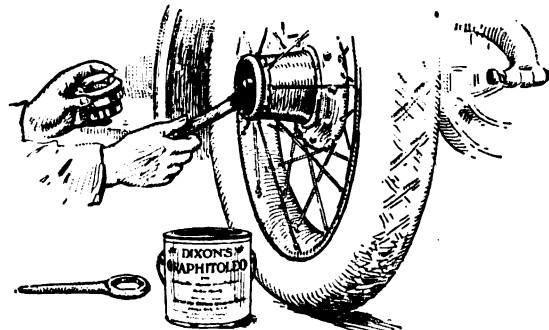
Few people begin to realize the range of uses to which graphite is put, says the *Scientific American*, for it is an essential though minor ingredient in a great number of unsuspected connections as common as that of lead pencils. With many of these the graphite man is himself unfamiliar, beyond the simple fact that this or that manufacturer purchases from him; for in such uses it is apt to represent part of a secret process.

Lead pencils, lubricants, electrical conductors, and black polishes and paints are prominent conventional uses, but it is liable to be present pretty much anywhere that anti-friction, unfading blackness, heat resistance, electrical conductivity or non-corrosiveness are desirable properties, and the fact that without graphite the derby hat as we know it could not be, is an example of its importance as an incidental ingredient.

If the Dixon Company were to tell of all the various demands for graphite it has had and all the uses to which graphite has been put, it would be not only interesting but surprising.

## DIXON'S GRAPHITOLEO

This preparation consists of very finely ground choice flake graphite and pure petrolatum. Absolutely warranted not to gum or become rancid. For this reason it is especially valuable for packing wheel spindles and steering gear housings of



automobiles, and the wheel and brake hubs of motorcycles and bicycles. A single application of this lubricant lasts a long time.

Dixon's Graphitoleo is packed in eight ounce collapsible tubes, also in one, five and ten pound tins. The collapsible tubes are very convenient for automobile use.

## SMOOTHING OUT THE WORRY

A pretty rough part of the property owner's life is in the repair bills. A leaky roof, or the appearance of rust spots on the iron work of a bridge or fence, or other construction work, means a repair bill.

You can side-step quite a number of worries in the painting line by using a better quality of paint than is usually found in the market.

A paint that users claim, and claim from experience, will last from five to seven or ten years, is the paint that puts the cost of repairs some distance away from you.

When you are mindful that it is the labor in painting and repainting that is the costly part, why not use or insist on having used Dixon's Silica-Graphite Paint that has a reputation of fifty years behind it, not only for great endurance but covering power as well.



**NEW DIXON'S DUST-PROOF ASSORTMENT  
No. 1090**

"Haven't you any nicer looking erasers?" asked the lady customer. "These here are fly-specked and positively need scraping."

This question is perhaps finicky, but in these days of sanitary paper towels and individual drinking cups, it is not beyond interrogation.

The problem of how to keep a stock of stationery clean and fresh and at the same time sacrifice none of its display, is worthy of study. Erasers, for instance, that remain boxed upon shelves have very little chance of helping to sell themselves, and open, upon a counter, may collect dust and lose their attractive and inviting appearance.

It is this problem that is solved with Dixon's Dust-Proof Eraser Assortment No. 1090. Three dozen pencil, ink and combination erasers in red, gray, green and blue colors, are always in sight of customers and yet are protected from dust and dirt and kept clean and fresh by a thin, transparent, window-like cover of the container. The case or container measures eight and one-half by nine and one-quarter inches and is fitted with an easel back attachment for display at angle as illustrated. Dixon's No. 1090 Eraser Assortment is a distinct improvement in the display of erasers. Ask your stationer for this new assortment. If he does not have it tell him where you saw it mentioned. He will thank you for the information.

**NOTHING EQUAL TO DIXON'S BOILER GRAPHITE**

MURRAY AND HILL COMPANY

Southern Boulevard, 143rd to 144th Streets

NEW YORK, February 2, 1915.

*Joseph Dixon Crucible Company,*

*Jersey City, N. J.*

GENTLEMEN:—With reference to Dixon's Boiler Graphite No. 2 for removing scale, beg to state that I have never used anything that equals it.

I have used it in our two boilers (78" x 20') since last June, and find that the boilers steam much easier than they ever did.

Yours very truly,

JAMES S. MUIR, *Engineer.*

**"WHAT SHOULD HE PAY?"**

In the last issue of GRAPHITE we published what we thought to be a somewhat difficult problem. Apparently we were mistaken, for Eldorado Pencils have been sent to the following names and addresses of those who responded with the correct answer which, by the way, is \$1.00.

MR. H. L. HARRIS, Pur. Agt., E. I. Du Pont de Nemours & Co.  
Wilmington, Del.

MR. E. B. JENKINS, 253 Rose St., Rocky Mount, N. C.  
CAROLINE COSGROVE, Scranton, Pa.

MR. WM. B. JACOBS, 158 Ocean Ave., Atlantic City, N. J.  
J. H. NOVE, Broadway, Va.

MR. WM. McDONALD, 36 Gold St., New York City.  
MR. G. M. HOLLIS, Chief Clerk, Grafton, W. Va.

MR. J. PACK, Chief Clerk, Chesapeake & Ohio R. R. Co.,  
Huntington, W. Va.

MR. H. D. HIBBARD, Columbia, Mo.

MR. J. MOONEY, 37 Gold St., New York City.

MR. THOS. MURRAY, 32 Rundel Park, Rochester, N. Y.

MR. D. BYRNES, 33 Gold St., New York City.

MR. THOS. BYRNES, 167 E. 83rd St., New York City.

MR. D. C. LLYOD, 2202 Maryland Ave., Baltimore, Md.

MR. R. S. LEE, Gen'l Foreman, N. Y. Susquehanna & Western R. R. Co., Wilkesbarre & Eastern R. R. Co., Stroudsburg, Pa.

MR. F. P. LAMPHEAR, 194 Madison St., Brooklyn, N. Y.

MR. GEO. S. WOODROW, Howard Park, Baltimore, Md.

MR. GEORGE AKANS, M. M. So. Ry. Co., Atlanta, Ga.

A. L. STONER, Asst. Timekeeper, So. Ry. Co., Sheffield, Ala.

**THE ABILITY TO LET GO**

Bessie L. Putnam in the *Journal of Education* preaches a little sermon on "The Ability to Let Go" which reminds us of something written by Walt. Mason on the accumulation of money by men who yearly vow they will stop, but nevertheless keep on year after year of gathering in the shekels until the Reaper comes along and gathers them in. In other words, it may not be as Miss Putnam suggests, the "stick-to-it-iveness" for the love of the work, but rather possibly because of the love of the coin.

As an illustration of the ability to let go, Miss Putnam mentions the electric crane with its powerful electro-magnets which take up heavy loads of steel rails, carries them to a certain spot and then lets go. The electric crane, however, does not let go until some one breaks the current by pressing a button or throwing out the switch. Therefore, after all, the men that Miss Putnam seems to have in mind are not any different from her electric crane—neither will let go until some outside party cuts the current.

We may preach all that we will about men letting go of their tasks when they have accumulated enough money or reach a certain age and have an income to live on, but men will go on just the same until they learn better and learn from experience and not from any sermons.

Some men do let go at the right time and devote the remainder of their lives to study or travel or for the benefit of their fellow men, while others keep on hoarding and sweating or keep on working and worrying, as the case may be. As Walt. Mason says, the Reaper gathers them in and the heirs scatter the coin.



## Hungry Belts Waste Power

When a belt slips,  
it's because it  
has dried out—

and got stiff—and taken on a hard, glassy surface. The belt is hungry—that's the trouble. It's lost some of its vital elements under hard work, which can be restored by using

# DIXON'S SOLID BELT DRESSING

These handy little sticks—so easy to hold against a belt while it's running—contain a fine assortment of belt food, predigested and ready for the belt to assimilate.

As you rub this dressing on your belts, you'll see them grow soft and pliable; you'll see the hard, glassy surface give place to the dull, clinging surface that takes hold of the pulley and drags it along.

Many a belt has been scrapped that could have been saved with **Dixon's Solid Belt Dressing**.

Proof? Send for Booklet No. 190-O, "The Proper Care of Belts."

Made in JERSEY CITY, N. J., by the

**JOSEPH DIXON CRUCIBLE COMPANY**



ESTABLISHED 1827



O-10

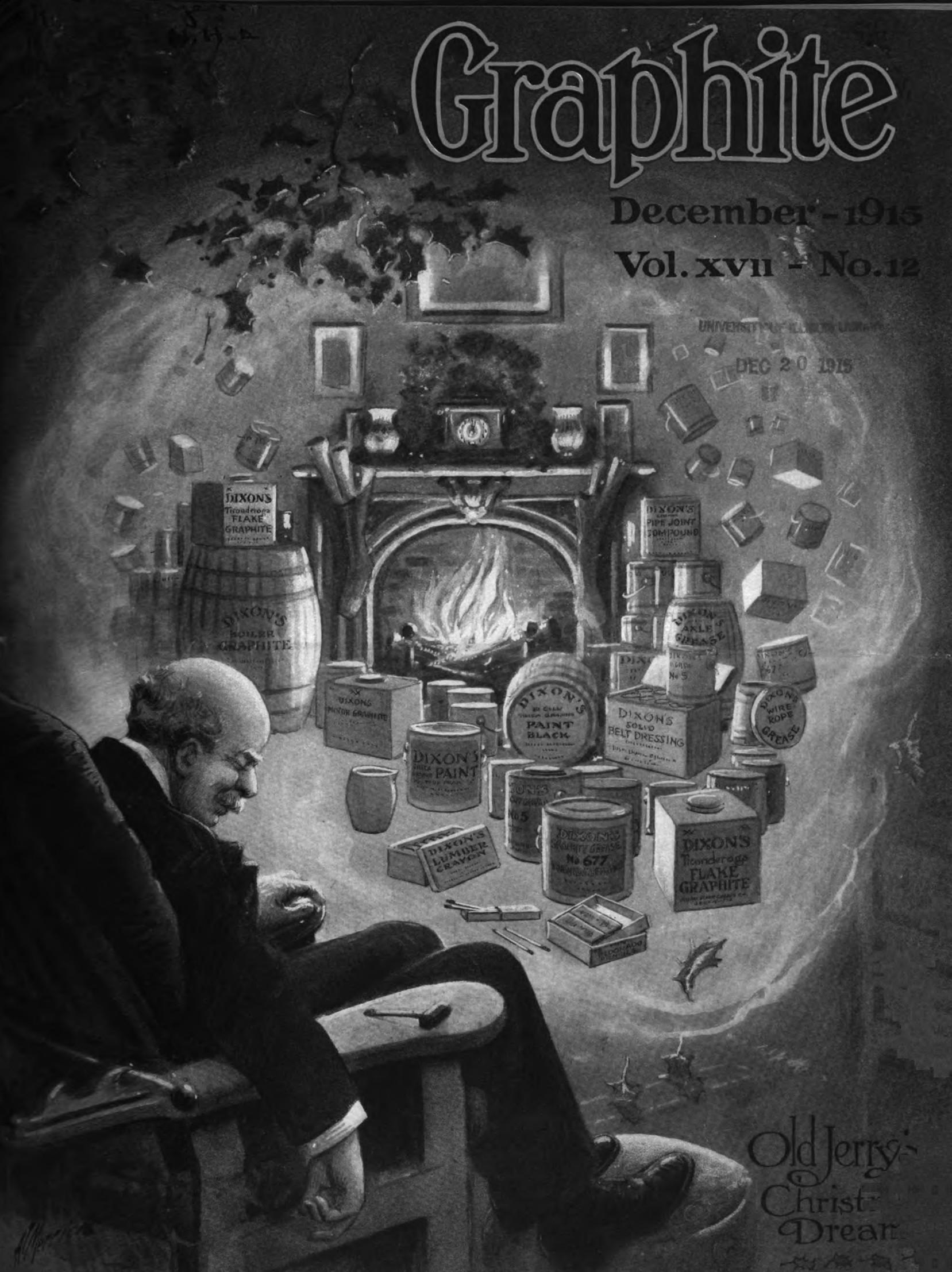
# Graphite

December - 1915

Vol. xvii - No. 12

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DEC 20 1915



Old Jerry  
Christ  
Dream

ESTABLISHED 1827



INCORPORATED 1868

**JOSEPH DIXON CRUCIBLE CO.**

JERSEY CITY, N. J., U. S. A.

**Miners, Importers and Manufacturers of Graphite,  
Plumbago, Black Lead.**

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For Dixon's American Graphite Pencils, Etc.

National Paper and Type Company, 31-35 Burling Slip, New York  
With Branch Agencies in Mexico, Cuba, Peru, Argentine,  
Uruguay, Venezuela, Porto Rico and Columbia**UNCLE SAM RECORDS OUR GRAPHITE GAINS**

Of interest generally, and of particular interest to company officials, purchasing agents and engineers, is the following paragraph, the fourth in the introduction to a sixteen page government pamphlet concerning "The Production of Graphite in 1914," by Edson S. Bastin:

"The two uses of graphite that seem to have shown the greatest gains during the year, are its application to automobile lubrication and its uses as a preparation to loosen boiler 'scale.' The effect of the graphite in the boilers is mechanical, not chemical. Being chemically inert it cannot injure the iron of the boilers or affect the quality of the boiler water. It does not prevent the formation of scale, but the fine graphite particles, by mixing with the scale during its formation, render it soft and crumbly and prevent it from adhering strongly to the boiler. It can then be easily removed. It is said, moreover, that graphite is efficient in loosening old scale, the graphite particles working into the pores of the scale and between the scale and the boiler."

The pamphlet referred to is published by the United States Geological Survey, Department of the Interior, of which George Otis Smith is director. It comprises pages 159-174 of Part II of *Mineral Resources of the United States*.

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**CAN YOU BEAT THIS!**

A prominent attorney of Pittsburgh, Pa., gave us some pleasant information recently. This attorney is the owner of well painted farm buildings at Canonsburg, Pa.

Eighteen years ago he painted his weather-vane (which is surmounted by a large metal ball) with Dixon's Silica-Graphite Paint, and repainting has not been necessary to date, as the vane and ball are still in good condition.

When eighteen years of service are divided into the first cost of Dixon's Paint, it is quite apparent that no other paint anywhere near approaches Dixon's Silica-Graphite Paint for yearly economy.

This yearly economy should be the whole desideratum with an economical, conservative manager or owner, when he is deciding on a protective paint for metal work (or woodwork for that matter), because Dixon's Silica-Graphite Paint makes an excellent paint for wooden surfaces.

---

**THE FIRST TALKING MACHINE**

It was some mean bachelor who said that Eve was the first talking machine. This is not at all correct. She was the first sweet singer. Now in regard to the first talking machine.

The recording of vibrations of a membrane was first accomplished by Leon Scott in 1857, by the invention of what he called a "phonograph." This is regarded as the precursor of the modern phonograph. The actual reproduction of sound was first achieved by Thomas Alva Edison in 1876, and first patented by him in 1877, the patent being dated in January of that year.

There have been, of course, several experiments and improvements between. The first method of recording vibrations of a tuning fork on the surface of a drum was discovered by Thomas Young in 1807. Alexander Graham Bell and S. Tainter patented the graphophone in 1885. Emile Berliner patented the gramophone in 1887.

## NEW GRAPHITE LUBRICATOR FOR LOCOMOTIVE CYLINDERS



A very interesting device for introducing flake lubricating graphite into locomotive cylinders has recently been perfected by Mr. E. H. Sweeley. Because of its simplicity and positive regulation, it is claimed that this lubricator is well adapted for the severe conditions of railroad service.

Reference to the illustration will show the design of the lubricator. It is to be noted that no motion or connecting rods to moving parts of the engine are required. A cup containing graphite and arranged for attachment to any convenient part of the locomotive is connected by a short tube to the indicator plug on the steam cylinder. The varying

steam pressure in the cylinder when engine is running operates a small differential piston contained in the cup. By adjusting the length of travel of this piston, the amount of graphite fed to the cylinder can be increased or decreased at will. Dixon's Flake Graphite No. 1 is the grade recommended for use.

The exhaust steam carries the graphite into the valve chambers, thereby giving them the same advantage of graphite lubrication as the cylinders. After the cups have been working on a locomotive for a few hours, the valve rods and piston rods will both show indication of graphite lubrication, as there will be a deposit left on them visible from the outside.

It is essential to remember that a very small quantity of graphite applied regularly gives the best results. Comprehensive tests indicated that for the ordinary locomotive one-half of one ounce fed into each cylinder per 100 miles is sufficient. It is not necessary to change the existing system of oil lubrication, the graphite serving as an aid and not as a substitute for the oil. When correctly adjusted and supplied with the proper grade of graphite it is claimed that this lubricator does not produce objectionable accumulations of graphite on piston and cylinder heads and in steam ports.

Economy is claimed as a result of the use of this graphite cup in both the departments of operation and maintenance, these claims being substantiated by actual tests under working conditions. Because of the reduced wear and marked reduction in friction which always attends the use of flake graphite, it must necessarily follow that there is a marked decrease in fuel consumption. It is claimed that there is at least five percent in fuel saving, and in some instances the percent will run even higher—as much as  $7\frac{1}{2}$  percent.

In addition to the fuel saving, the cost of maintenance, including repairs, renewals, inspections, etc., is reduced to a minimum. One of the well known eastern railroads has over twenty locomotives fitted with this device, some of them in service over a year. Several of these locomotives formerly were particularly troublesome in the matter of repairs, being constantly reported for new packing rings or reboring and facing of cylinders and valve seats. There was a decided and consistent improvement noted immediately after the graphite

lubricators were installed, the locomotives were in constant service for periods varying from five to seven months, during which time no trouble was experienced with valves or cylinders. This was especially true in the case of superheater locomotives where extremely high temperatures have always made lubrication a difficult problem.

We give below the results of a year's test on two locomotives of this railroad, one being equipped with the graphite lubricating system and the other with an oil system alone. Both engines were of the same class and operated in the same service. Cylinders were bored before the test and measurements taken with micrometers both before and after the test, the amount of wear being thus determined.

	Engine No.— (Without Graphite)	Engine No.— (With Sweeley Graphite Cup)
Test started.....	May 1912	April 1914
Test finished.....	June 1913	Aug. 1915
Mileage .....	48000	56000
Total average cylinder wear	0.056"	0.014"
Cylinder wear per 100 miles	0.0012"	0.00025"

The average packing ring wear in the locomotive lubricated with graphite was only  $\frac{1}{2}$ ", while the other locomotive required two renewals of rings during the test. The cost of graphite used was less than \$.01 per 100 miles and the estimated saving, based on cylinder and ring wear alone, was approximately \$40.00.

## PAINT ON HOT WATER PIPES

The Dixon Company has quoted a number of testimonials which stated that Dixon's Silica-Graphite Paint gave the best service upon pipes subjected to heat, brine fumes and other arduous conditions.

The following testimonial is added to the number.

CHARLES H. ALLEN

FLORAL PARK, N. Y., August 30, 1915.

I used Dixon's Silica-Graphite Paint on my hot water pipes, sixteen (16) years ago, and the pipes are still free from rust. I require some more for other pipes and of course shall use only Dixon's Silica-Graphite Paint, as it is by far the most serviceable for the purpose. Yours truly,

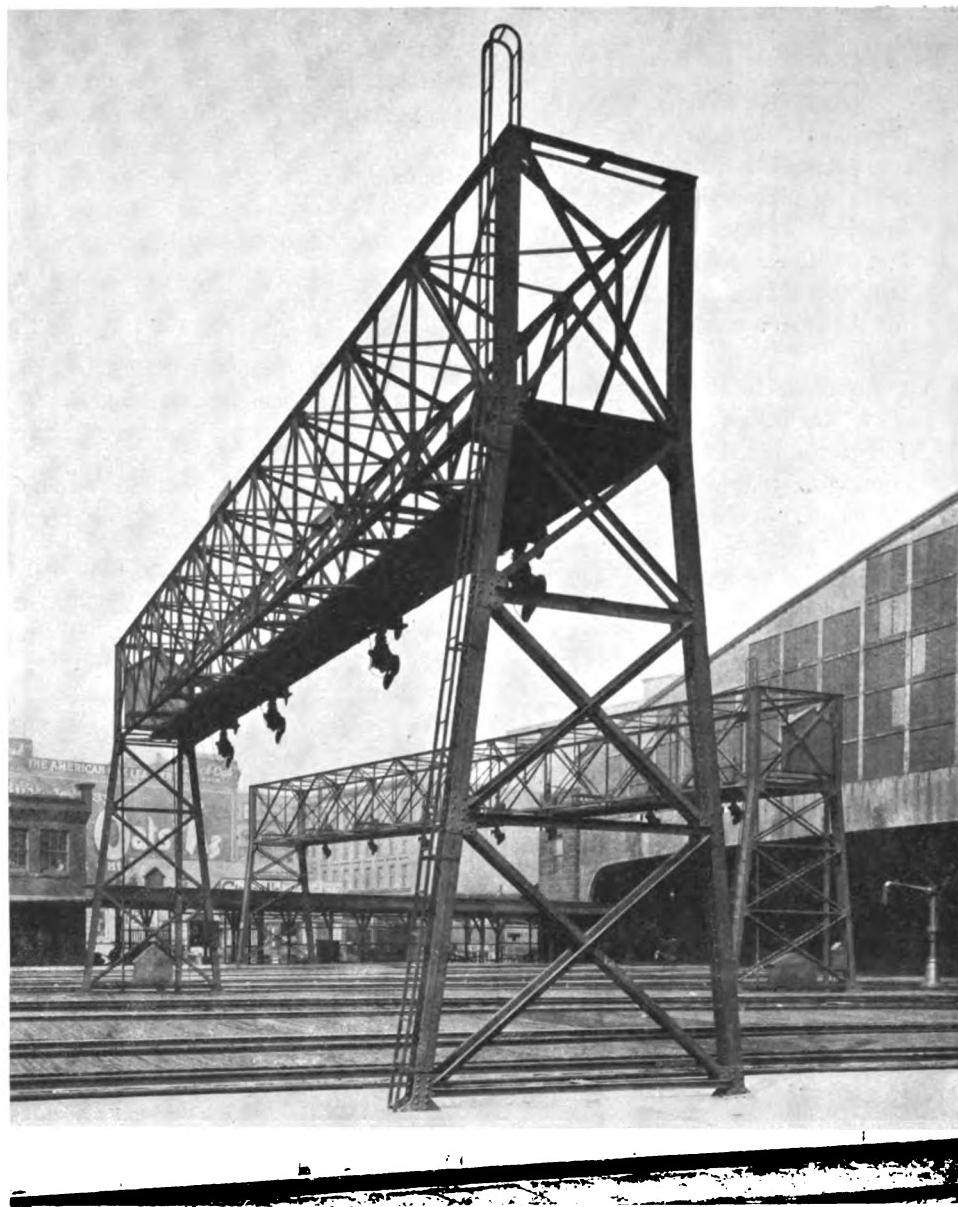
(Signed) CHARLES H. ALLEN, *Florist.*

## "CLEAN-UP" AND "PAINT-UP" CAMPAIGN

Mr. Allen W. Clark, the able editor of the *American Paint and Oil Dealer*, St. Louis, Mo., gave a most interesting address on the "Paint-Up" campaign at the Convention of the Federation of Trade Press Associations at Philadelphia, sometime ago, and people interested in civic betterment would find it profitable to read Mr. Clark's address. It points out the best way to accomplish anything in this line is to organize, create enthusiasm and accomplish something definite.

Mr. Clark is well known for inaugurating and carrying forward this notable and civic paint movement.

Dixon's Silica-Graphite Paint is both an economical and protective paint for the factory and for the home where a lighter paint is used for the trimmings.



#### BOSTON TERMINAL SIGNAL BRIDGES

The accompanying illustration shows two of the signal bridges in the Boston Terminal Yard, Boston, Mass. On several of these substantial structures the metal work has been well protected with Dixon's Silica-Graphite Paint for the past eight years. These bridges are exposed to the cold and storms of winter and the storms and heat of summer, as well as the severe effects of the fumes from hundreds of locomotives which pass beneath them daily.

In regard to the wide ranges in temperature to which this work is exposed throughout the year, it is an interesting fact to keep in mind that Dixon's Silica-Graphite Paint gives equally good service on work exposed to the coldest weather in the far North as well as on surfaces beneath the hot rays of the tropics. Such practical tests plainly point to the reason why Dixon's has been adopted as the maintenance paint by leading railroads and other corporations.

In the background can be seen a small portion of the enormous trainshed, the steel work of which is also well protected with this *longest service paint*.

#### DIXON'S BOILER GRAPHITE FOR BEST RESULTS

ROBERTS BROS. FLOUR MILLS

WARSAW, N. Y., February 1, 1915.

*Joseph Dixon Crucible Company,*

*Jersey City, N. J.*

GENTLEMEN:—Relative to the use of graphite in boilers, I use four pounds after cleaning once in four weeks and one-half pound per week while the boiler is in operation. This keeps the boiler, which is a 125 H. P. return tubular, in good condition.

I have tried several other graphites, but find that Dixon's Boiler Graphite No. 2 gives the best results.

Very truly yours,

(Signed) CHARLES WHITE, *Engineer.*

"THESE TRUST bills embody the assumption by the men who have not been conspicuous successes, either as men of government or business, to set the standards of conduct and morality for the men who have accomplished whatever of prosperity or morals the country has experienced."

## DIXONITES WHO PENCILIZE THE COUNTRY



No. 3—C. A. ORTH OF CHICAGO

The prize winning definition of a salesman at a recent gathering of sales managers declared, in part, that a salesman is "one who sells, satisfies both employer and customer, justly serving the interests of both, using initiative and originality constantly to increase sales without misrepresentation or losing customers by selling something not wanted."

We do not know of anyone of whom this description is more fitting than C. A. Orth of the Chicago office of the Dixon Company. Orth was born in Detroit, which perhaps accounts for his ninety horsepower energy and the fact that in his work he hits all six cylinders.

"Quality first" is the slogan of Orth. He sells Eldorado, "the master drawing pencil" as easily as any of the lower priced Dixon Pencils. "Eldorado gives satisfaction," says Orth, "and satisfaction is what spells welcome on the door-mat." Orth is enthusiastic about the sale of specialty pencils. To him the pencil "that writes white" in photo albums, upon blueprints and all other dark surfaces makes an especial appeal. This, perhaps, accounts for the widespread introduction of Dixon's Best White No. 352 in the Chicago territory of the Dixon Company. Another specialty pencil and the one which Orth frankly admits appeals more to his sense of salesmanship than any other, is Dixon's Order Book No. 2020. "This pencil," declares Orth, "has always been a repeater." Anglo-Saxon, "seven inches of pencil perfection," is also one of Orth's prime favorites.

"Service" has always had a particular meaning to Orth. It is the material with which he models customers into friends. His first position was as a cash boy in the stationery department of a well known Detroit concern. This concern is now a valuable Dixon account. Orth does not forget his obligations or promises. Often he called upon an elderly notion jobber in Pittsburgh, but for some time he could not interest the latter in Dixon Pencils. Finally this jobber gave to Orth all of his business. From time to time this jobber had asked for certain samples of Dixon Pencils. Invariably the pencils arrived promptly, "just as if," explained this jobber, "I had been a regular buyer."

Orth, ever since his youthful days in Detroit, has had a leaning toward baseball and the commercial stationery trade and when he leans against a prospective account, it is like the way his famous fellow townsmen, Ty Cobb, leans against the ball.

## CHARACTER IN LEAD PENCILS

Scientific investigators of child-life tell us that in no way do boys or girls reveal their traits more than in the manner in which they sharpen their lead pencils. Here is seen whether a child is impulsive, destructive, wasteful, impatient, criminal, or easygoing, artistic, considerate, economical, thoughtful or careful.

The child who gouges out great pieces from the sides of his pencil shows impulsiveness and generosity. If he breaks off a chunk with his finger nails, he shows destructiveness and an utter disregard of the feelings and rights of others. Should he smooth his pencil down to a long point, he shows an artistic temperament and a considerate disposition. If he cuts his pencil off in a stub, he shows economy, carefulness and quickness.

In fact, the way children sharpen their pencils is a very clear indication of what sort of men and women they are likely to be.—*Tit-Bits.*

## HOW HE USED DIXON'S COLORED CRAYON PENCILS

A man who sharpens his pencils to a long point, began to make use of Dixon's Colored Crayon Pencils. Soon afterwards he complained that the crayons broke too rapidly and, in short, he became disgusted with them. A friend who happened to have a more than average knowledge of things generally and of pencils in particular, explained to the dissatisfied one that colored crayon material did not have the same strength as the mixture used in an ordinary lead pencil. Quite likely, he added, it was his (the dissatisfied one's) own fault that he could not use a colored crayon. In the meantime, this friend's gaze had rested upon the crayon pencil used by the dissatisfied one. "You see," he said, "that if instead of that long needlelike point, you contented yourself with a short, blunt point, you would save your time, temper and money. Sharpen no more than half an inch, including wood, of Dixon's Colored Crayon Pencils and you will discover a new pleasure in the use of them."

## BE A FRIEND TO THE SALESMAN

A successful salesman is one who sells two-thirds of what you think he should. If he sells eighty per cent, he is a star. And to reach either of these percentages, he must have the very intelligent co-operation of the house and the coaching of the sales manager. The manager must be more his friend than his boss. Their relations must be strongly personal. The salesman should feel that he has a shoulder to weep on in times of tribulation, and someone to help when he hollers—someone to advise him in hard cases, sympathize with him if he works hard and fails, and to pin a gleaming medal on him when he succeeds.—*Printers' Ink.*

A SIGN in a trolley car reads as follows:

"The pickle you buy advertises here—why don't you?"

This reminds us of the farmer who says, "Son, go water the horse," but no one is ever heard to say, "go milk the cat." Great indeed is the flexibility of the English language, and what is the difference so long as you know what a man means?



### THE DISCOVERY OF BALL BEARINGS

"No wonder the wheel wouldn't run with all these little bullets in it"  
*—Reprinted by permission of "MOTOR PRINT," Copyrighted*

### THE USE AND ABUSE OF BALL AND ROLLER BEARINGS

By F. J. JAROSCH

*Chief Engineer, Bearings Company of America*

CONTINUED

There are a number of makes of ball and roller bearing on the market, and the manufacturers furnish catalogs and tables showing the dimensions and permissible carrying capacities of the different sizes and types of bearings. All makes of ball bearings are standardized in regard to inside diameter, outside diameter and width, and therefore are interchangeable as far as these three dimensions are concerned. This interchangeability is sometimes offset by the difference in carrying capacity between different makes, due to a difference in the number and size of balls, as—if other things being equal—the product of the square of ball diameter and the number of balls is the principal factor to determine the carrying capacity. Another cause for a decrease in carrying capacity is the use of inferior bearing material, for instance, case-hardened material. Therefore, when replacing bearings of a certain make with bearings of another make of the same size, attention should be paid to the fact that there should be no remarkable difference in the permissible carrying capacity between the two makes, otherwise it may easily happen that trouble will result when a certain size and make of bearing, originally selected for certain load and speed conditions, is replaced by the same size of bearing of another make, but a lower carrying capacity. This also applies to roller bearings. Then cases occur where bearings, which were originally selected for a certain purpose, will become overloaded on account of changes in load and speed due to a change in the gear ratios or the arrangement of the power transmitting gears (transmission or differential gears, direct wheel drives, chain drives, etc.), or also a change in the distances between the bearings and the power or load transmitting points. Other overloads upon the bearings may be produced by increasing the amount of the driving power or the speed of the driving shaft without changing the other parts of the machine. All such changes should be carefully considered and taken up with the ball or roller bearing maker.

#### VI. MOUNTING OF BEARINGS

It is a well known rule in the mounting of radial ball bearings that the inner race should have a tight fit on the shaft, while

the outer race should be placed in the housing with a sliding or sucking fit. The principal reason for this rule is, that in most cases the inner race is rotating while the outer race is stationary in its housing, therefore, a tight fit will prevent a movement between the inner race and the shaft, while the sliding or sucking fit of the outer race will allow the same to creep slowly, and bring different parts of it under the zone of the load. A press fit always results in expansion of the inner race, and there is always some doubt as to what extent the inner race can be expanded without cracking it, or straining the material too much, decreasing the carrying capacity, or, a very vital point, pressing the balls tightly between the raceways. Such pressure on the balls results in an elastic deformation of them, and is very likely to expand the outer race also. A ball bearing operating under such conditions will be noisy and wear out quickly.

Admitting these obvious facts, the races should be made of a material elastic enough to stand slight expansion without producing a strain in its structure, and the races and balls should be assembled with a slight radial shake in order to provide for the expansion of the inner race. There are, however, certain limits to these conditions. Practical experience has taught that the press fit, or, in other words, the expansion of the inner race, should not exceed .0005 inch to .001 inch, according to the size of the bearings.

Assuming that most ball bearings are ground in bore from a standard to a minus limit of .0004 inch, the following table will give an idea as to what limits the bearing seat on the shaft should be ground:

Inner Race Diameter in mm.	Bearing Numbers			Addition to Shaft Diameter in Inches	
	Minimum	Maximum	Minimum	Maximum	
10 to 20	200 to 204	300 to 304	403 to 401	0	.0003
22 to 40	205 to 208	305 to 308	405 to 408	0	.0004
45 to 75	209 to 215	309 to 315	409 to 415	0	.0006
80 to 110	216 to 222	316 to 322	415 to 420	0	.0008

These limits will always secure a tight enough fit of the inner race, as in most cases it is locked sideways.

The outer race should never have a press fit in the housing, but it is just as bad to go to the opposite extreme and have the fit too loose. As agreed to by the ball bearing manufacturers, the outside diameter of ball bearings is ground from standard to a minus limit. Accordingly the outer race diameter will always be a few ten-thousandths under standard, but never above standard. But since there is considerable difference in the limits actually used by the different ball bearing makers for the outer race diameter, it is quite difficult to recommend positive figures, from which to obtain a proper sliding fit for the outer race in its housing for all makes of ball bearings. The best way, naturally, would be to fit every individual ball bearing in its housing, but in order to insure interchangeability, a sufficiently loose fit will be obtained if the bore in the housing be made from .0003 inch to .0006 inch larger than the standard outside diameter of the bearing.

The same principle mounting rule applies to roller bearings, but as the tolerances actually used for inside and outside diameter are not standardized, but vary to a great extent for the different makes, it is impossible to recommend comprehensive

figures for securing a proper seat of the races on shaft and in the housing.

If a ball or roller bearing is to be mounted in a soft metal housing, for instance, aluminum alloy, it is a good practice to force a bushing of bronze or steel into the soft metal housing, and to mount the bearing with a sucking fit into this bushing. This method secures a proper seat for the bearing, as it can creep inside the bushing without working itself loose, which would be the case if the bearing were placed in the soft metal housing.

In order to obtain a full seat of the bearing, which is essential for the proper application and distribution of the load pressure, the bearing seat on the shaft and in the housing must be absolutely cylindrical, that is, it must not be tapered or oval. If the area of contact between the inner race and the shaft, or between the outer race and the housing, is insufficient, it will happen that the pressure per unit area upon the material of the shaft and housing will become too large, then the material of the shaft will be depressed and the bearing will become loose. Cases are known where the inner race of heavy duty bearings were mounted on a shaft made of soft steel, and the inner race of the bearing pressed itself into the shaft on account of the excessive load per unit area of contact. By slow creeping of the inner race on the shaft, the material of the shaft wore off in a short time under influence of the heavy pressure. Loose bearings result in loose shafts, and a loose shaft will set up vibration, which will seriously affect the operation of gears.

If the shaft is mounted on two or more bearings, care should be taken that the shaft and the bearing housings are in alignment, otherwise angular pressure upon the bearings will be produced, which probably will cause an overload and quick wear of the races.

In case the bearing is mounted against a shoulder on the shaft or in the housing, such shoulders should be sufficiently high to give a good support to the bearing. If, for instance, the shoulders on the shaft are too small, the inner race of the bearing when pressed against the shoulder (see Fig. 7) will be forced to slip over it, thus expanding the inner race and producing angular pressure on the balls. The fillet left at the point where the shaft is decreased in diameter, should have the same, or a smaller radius, than the standardized radius of the chamber of the bearing races. If the radius of the fillet on the shaft is larger than the radius of the chamber on the bearing race, the latter see (Fig. 8) will not come in contact with the shoulder on the shaft, but probably will be expanded as referred to in Fig. 7.

Each bearing, previous to mounting it, should be thoroughly washed out in clean gasoline in order to remove bearing by careless handling. Care should also be taken that the inside of the housings and the shaft are absolutely clean. In case a press fit is recommended for the inner race, the bearing should be placed in a thin oil free from acid (mineral oil) and heated to about 110 degrees F. for about five minutes,

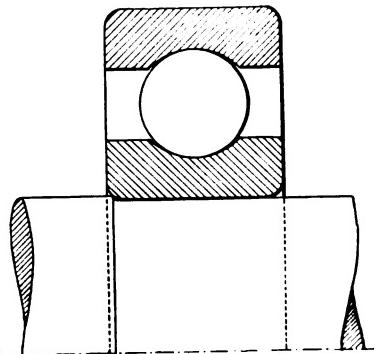


Fig. 7

thereby slightly expanding the inner race and thus facilitating the mounting on the shaft. After the bearing has cooled off, it may be placed into its housing.

(To be Continued)

#### NEW CALENDAR PERFECTED

Benefits to be Derived from one Conforming to the Lunar System

A correspondent in the *New York Times* tells of a new calendar that has been worked out by the Rev. H. P. Hames of All Angels' Church, New York City.

The problem of a new calendar is one to which scientists have given much thought. The present one formulated by the Rev. Mr. Hames is said to be one easily understood by the working man and by the professional man.

Our present calendar has come down to us, with very few alterations, from the year 46 B. C., when it was adopted by Julius Caesar.

The Rev. Mr. Hames' calendar is made to conform with the lunar system, and consists of thirteen months of twenty-eight days each, with an extra day without legal date, called New Year's Eve, following immediately after December 28 each year, and two extra days without legal date every leap year (except once in 400 years.)

Under this new calendar the first day of every month will always be a Sunday, and, therefore, the last day of the month is Saturday.

Decoration Day and Labor Day will not only fall on Monday, but will always be the same date, as indeed all holidays will be, thus giving the business man the longest possible recreation.

Thanksgiving Day coming on the last Thursday in October, always the 26th, removes it a month further from the Christmas season.

As only dates coming after the 28th of the month have been transferred, people born on the 29th, 30th, or 31st of the month will keep their anniversaries on the 1st, 2d, or 3d, respectively, or the month following.

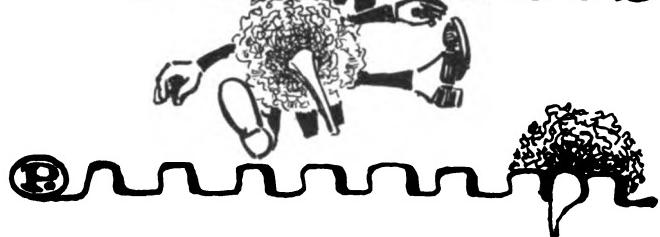
Christmas Day will still be December 25, but will fall on a Wednesday, so as not to clash with a Sunday, but Easter Day will always be the third Sunday in April, thus eliminating the great variation in the present calendar from March 23 to April 25.

One great advantage, it is said, provided the calendar is adopted, is that the calendar will be a permanent part of the household the same as a clock, and the avalanche of advertising calendars with which we are burdened the first of each year will be a thing of the past.

ACCORDING to the annual statement issued by Messrs. Worms & Company in their Suez Canal weekly list, there passed through the Suez Canal during the year 1914 a total of 26,866,340 tons gross.

British ships were by far the greatest users of the canal, their percentage being sixty-six percent. The figures for Germany show a remarkable reduction, there being only eleven percent credited to Germany, yet Germany ranks next to England. The United States is credited with only two one-hundredths of one per cent. That our readers may know that no typographical error is made, we again repeat, only 0.02 percent.

# Bouquets



"The office likes to read GRAPHITE, but I want it first, so please send it to my home address."—WM. B. JACOBS, 158 Ocean Avenue, Atlantic City, N. J.

"I am one of the many members of the Air Brake Association that admires GRAPHITE. The manner in which it is published makes it a very interesting publication."—GEO. W. NOLAND, 168 No. 18th Street, Columbus, O.

"I feel sure that the one hundred and ten copies of GRAPHITE are being appreciated by the members of this branch."—C. C. WHIPPLE, Secy., W. P. I. Branch, American Institute Electrical Engineers, Worcester, Mass.

"You send out a neat little magazine and very useful and a help to users of Dixon's Graphite, so drop a little of your graphite on one and slide it to S. J. SHIELD, 36 Bishop Avenue, Bridgeport, Conn."

"GRAPHITE is quite a publication and I congratulate you upon its success. I was rather interested in the school number."—FRANK BRUCE, Publisher, *Industrial Arts Magazine*, Milwaukee, Wis.

"I always find something of special interest in GRAPHITE. The article in the current number by Henry Turner Bailey is so inspirational and suggestive that I will be willing to place some of them—say thirty or thirty-five—where each one will do good."—WM. F. HILLS, Lowell, Mass.

"I have just been reading GRAPHITE and I have noticed a great many interesting items. If it is not asking too much would be pleased to receive it regularly."—WALTER E. MALSHESKI, Master Mechanic Offices, System Shops, Pere Marquette Railroad Company, Wyoming, Michigan.

"I have recently had placed in my hands a copy of GRAPHITE and perusal of the same has led me to wish that I could repeat the experience. Would you kindly place my name on the mailing list of the publication? I would also like to be favored with a copy of the Dixon booklet, "Useful Spanish Words and Phrases."—CLIFFORD HASTINGS, Chief of Appointment Division, Department of Commerce, Washington, D. C.

## STREETS OF THE WORLD

"The narrowest street is Via Sol, Havana, Cuba, which has a width of no more than forty-two inches.

"The highest street in the world is Main Street, in Denver; the richest is Fifth Avenue, New York City; the widest is Market Street, in Philadelphia; and the shortest is the Rue Rio in Paris. The dirtiest street is that of Tehanksti, in Nanking; the cleanest is the Via Castile, in Seville, Spain; the most aristocratic one is Grosvenor Place in London; the most beautiful is the Avenue des Champs Elysees, in Paris."—*Havana Post*.

## WHAT THE FACTORY DOES

Manufacturing makes cities out of villages, and makes them to be cities of incomparable thrift and advancement, with higher standards of living, more with which to live.

Manufacturing has made our great states, for none makes its way to the front rank except over the manufacturing heights. Manufacturing and attending trade make the nation. It is so in the case of our own country, because our eminence is in commerce and the enjoyment of its reflexes.

We have little expanded by the conquest of arms, our notable triumphs are in the developments wrought in peace.

Financial standing and educational advancements are in exact accord with manufacturing and commercial development.

The importance of manufacturing is so inseparable from the fortunes of city, state and nation, that there is call today for a nationwide awakening.

Stockholders and managers are so greatly outnumbered by the toilers in the shops, and the successful are so largely outnumbered by those who do not climb to the heights, that the gospel of conflicting interests has been preached, and there has been appeal to the prejudice of the greater mass rather than argument to the reasoning whole.

The process was so profitable, politically and otherwise, that it enlisted many in very high places, and there has grown up the professional baiting of big enterprises, attended by appeal to envy and hate, until it is the greatest menace of American progress today.

There is no community big or little which does not rejoice to boast its growing manufacturing importance. The boast of Rochester, New York, is that it is the home of the Kodak. Dayton, Ohio, has its unchanging pride in its great cash register works, which puts Dayton on the map. Detroit takes pride in the great Ford automobile works, which has increased the homes of Detroit and the savings bank accounts of its employés. Every city and town is better for its manufacturing interests. Jersey City boasts the Joseph Dixon Crucible Company, the Colgate Company, the Lorillard Company, the Durham Duplex Razor Company and other important manufacturers.

Too many people seem to forget that the successful factory must be possessed of capital, capacity and courage of men to do things. It has been well said that it is a singular fact that the community least employed in manufacturing activity has the ready forces to solve every problem incident thereto, and the most-heard-from experts in dealing with the sociological problems incident to big enterprises have never had capacity stunted by excessive activities in production.

## WHY A WATCH GOES WRONG

According to *The Dundee Advertiser*, tests made by Mr. J. J. Shaw have shown that a watch which normally varies only to the extent of a second a day may gain or lose a quarter of a minute in the twenty-four hours if it is hung up on a stand or a bedpost. The angle at which it hangs is also a factor. Mr. Shaw also suggested that the well known fact of a watch keeping bad time when worn by some one else than the owner is not due to bodily temperature or animal magnetism, as is generally believed, but to the different rhythm of motion. According to Mr. Shaw, the vagaries of a watch is a fascinating subject, which seems to deserve further scientific inquiry.

## READ THIS REQUEST

جبريل العريبي  
TOM KHOURY  
Wholesale Dry Goods, Novelties, Fancy Goods  
And Jobber  
248 East Fillmore Ave.

ST. PAUL, MINN., Oct. 21, 1915

*Jeffrey Dixon pencils Co.*

لدينا مئات من الأقلام التي لا يجدونها في أي مكان آخر، ولكنها مصنوعة من جمادات خالية من الرصاص، مما يجعلها آمنة وذات عمر أطول. إنها مصنوعة من مواد طبيعية، مما يجعلها آمنة وذات عمر أطول. إنها مصنوعة من مواد طبيعية، مما يجعلها آمنة وذات عمر أطول.

*أحمد عزيز*

Mr. Khoury, despite the unusual appearance of his communication, could not conceal from us the fact that he desired to possess a Dixon Pencil catalog and to know more about the excellent qualities of the pencils listed therein. It isn't every day that we get letters written in—Oh! by the way, do you know in what language Mr. Khoury favors us with this request? Think of a country noted for its horses and of which we have a thousand and one wonderful tales! There, now, we've gone and told you!

## PUTTING IT OVER THE MUSCOVITE

A Counterfeiter's Trick of Many Years Ago

Mr. Geo. E. B. Putnam of *The Boot and Shoe Recorder*, Boston, Mass., has from time to time helped to enrich the columns of GRAPHITE, and the following is contributed by him and comes from an old book of business anecdotes:

"A great number of false bank notes were at one time put into circulation within the dominions of the Czar. They could only have been imported; but although the strictest search was made habitually over every vessel entering a Russian port, no smuggling of false notes was discovered. Accident, however, at last brought the mystery to light. It happened that several cases of lead pencils arrived one day from England and were being examined, when one of them fell out from a package, and the custom-house officer, picking it up, cut it to a point, and used it to sign the order which delivered up the cases to the consignee. He kept the one loose pencil for his own use; and a few days afterwards, because it needed a fresh point, cut it again, and found there was no more lead. Another chip into the cedar brought him to a roll of paper nested in a hollow place. This paper was one of the false notes engraved in London, and thus smuggled into the dominions of the Muscovite."

"THE volume and value of our manufactures far exceed those of any other nation. We export not to exceed five percent of them. Unless we shall find foreign markets for the surplus we have to curtail production. With ships of our own we would find foreign markets for our surplus products. We cannot curtail production, throw hundreds of thousands of workers out of employment, and stand still nationally."

—ALEXANDER R. SMITH, Editor *Marine News*.

## "USEFUL SPANISH WORDS AND PHRASES"

"If you will forward us about three dozen copies of "Useful Spanish Words and Phrases" we will distribute them aboard our steamers."—QUEBEC STEAMSHIP COMPANY, 32 Broadway, New York City.

"As an instructor in the International Correspondence Schools and a student in the course of Spanish language, I would like to have one or two copies of your reliable little pamphlet, "Useful Spanish Words and Phrases."—H. E. COOPER, Locomotive Engineer and Air Brake Instructor.

"We find your booklet, "Useful Spanish Words and Phrases" very interesting. We can use a supply on board our passenger steamers which we will distribute to the best advantage."—H. F. DAVIDGE, Busk and Daniels, Agents, Lamport and Holt Line.

"Thank you very much for sending the Dixon booklet, "Useful Spanish Words and Phrases." It will come in very handy to many of our members about to make their first trip to the Continent and who may not be familiar with the Spanish language."—L. J. HEFFERN, Secy., Engineers', Chemists' and Sugar Makers' Association.

"I beg to acknowledge receipt of the very interesting booklet, "Useful Spanish Words and Phrases," for which please accept my thanks. If not asking too much I will appreciate it if you can send me three or four more copies to give to other members of the office force who are becoming interested."—From the Depot Quartermaster's Office, U. S. Army.

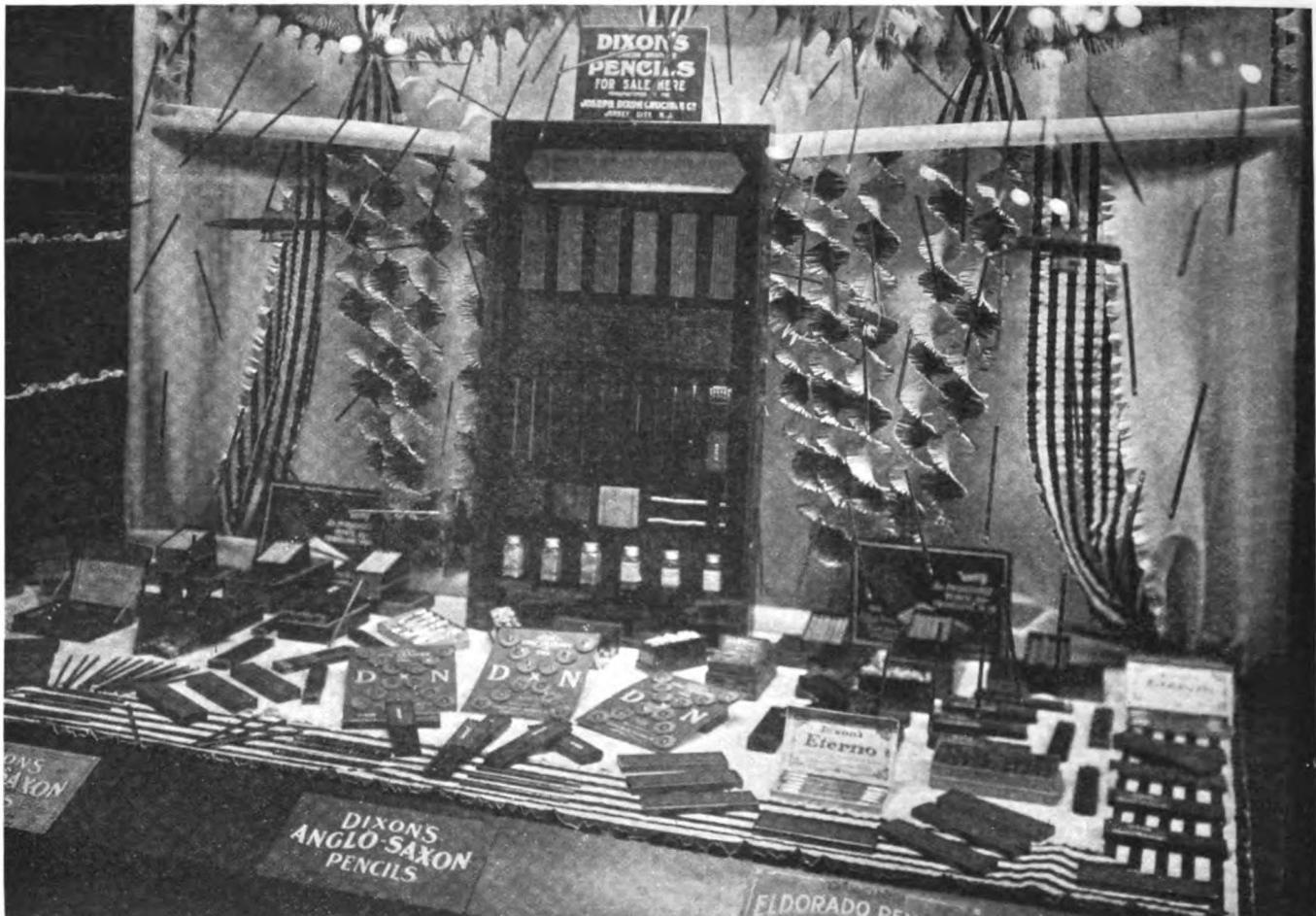
"We have no passenger steamers and much regret that we have not if it is going to cut us out from having a few copies of "Useful Spanish Words and Phrases" in the office. Would it be asking too much to send us half a dozen copies as they would be used and appreciated?"—Jos. D. PHILLIPS, Secy., Bull-Insular Line, Inc., 10 Bridge Street, New York City. (From New York to Porto Rico).

"We would, however, be very grateful to receive three more copies of "Useful Spanish Words and Phrases" and in anticipation, enclose stamps to cover postage on same. In concluding we take this opportunity to compliment you on this publication, which is an excellent idea."—N. Y. and S. A. LINE, (sailing between New York and ports in Chile and Peru). Per: J. W. RYAN, Agent, 11 Broadway, New York City.

"Copies of your little booklet, "Useful Spanish Words and Phrases" have been distributed among the pupils of the Spanish classes of Newton High School. They find these booklets very helpful in their Spanish course. The students very much appreciate your courtesy in sending these books, as they know the books will be a great asset to them during their Spanish course."—GERTRUDE RYAN, JOSEPH V. GROGAN, Committee, Newton High School, Elmhurst, L. I.

"We have received a copy of the Dixon booklet, "Useful Spanish Words and Phrases," for this library and we are very greatly obliged to you. A number of the members of the faculty have examined it and all agree that it is a most convenient little handbook. I know nothing else published that gives in such concise form just the words and expressions that one wishes to know of a foreign language. As you may know, copies have been secured for a class in Spanish for the Normal to be used in connection with their text book for class work."

—From a Librarian of a State Normal School.



#### A WINDOW DISPLAY OF DIXON PENCILS

Loring, Short & Harmon, of Portland, Maine, one of New England's oldest and finest stationery houses, recently devoted one of their large show windows for an attractive display of Dixon's Pencils. The accompanying illustration pictures the successful effort to obtain a "wintry" atmosphere, indicative of that season's close approach.

Displayed prominently in the central background is one of those ever interesting process exhibits showing the evolution of a Dixon Pencil from start to finish. Grown-up people like to know what's inside of things just as they did when, as children, they examined the "innards" of their toys and playthings. This Dixon exhibit is just the thing to satisfy that sense of curiosity and is instructive enough to be worth while.

Many deserved compliments for this window were received by Loring, Short & Harmon. One of these compliments expressed a belief that this particular window was "one of the best pencil displays ever arranged in the State of Maine."

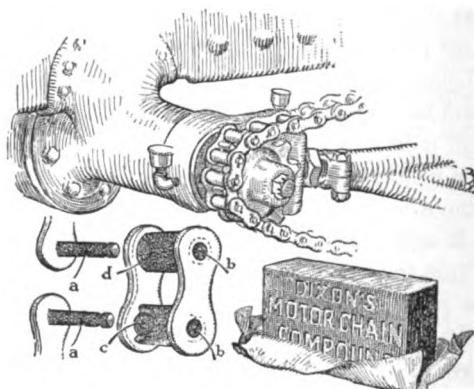
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#### WRITE FOR SAMPLES

Our back cover advertisements are not merely intended to arouse passing interest. Those who are more particular about the pencils and crayons they use or buy, and we mean purchasing agents, engineers, architects, chief draughtsmen, business executives, etc., should write to us for samples. We are always glad to get acquainted with appreciative pencil users, and to make it as easy for them as possible to secure just the grade, shape and finish of pencil or crayon needed for individual requirements.

#### DIXON'S GRAPHITE MOTOR CHAIN COMPOUND

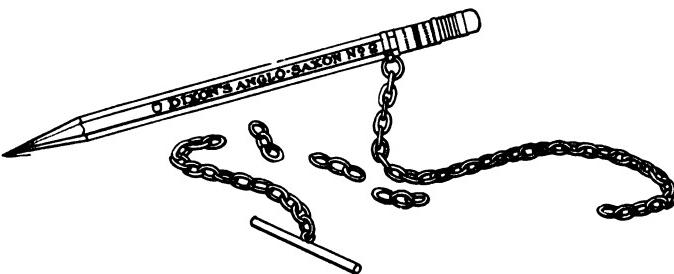
The best possible way to treat driving chains, is to first thoroughly clean them with kerosene or gasoline and then immerse them about twenty minutes in a bath of Dixon's Motor Chain Compound. This bath is obtained by melting a sufficient quantity of the compound in a large flat pan. Move every link of the chain so as to aid the lubricant to



penetrate to the pins and rollers, after which the chain should be hung up to cool. The compound may be used repeatedly.

The treatment described insures thorough internal lubrication, every bearing surface being reached and provided with a graphite coating. Rust and wear are prevented and dust and dirt do not get a chance to accumulate.

Sold in cakes weighing about three pounds each.



### ANOTHER CHANCE TO EXERCISE YOUR THINKERY

Only a bare majority of the forty readers who responded to a problem published in the October issue of GRAPHITE, succeeded in furnishing correct solutions. Our suspicions are naturally aroused over the penetrating powers of our readers and in order to either confirm or dispel them—we mean the suspicions, of course—we offer as a further test the following Anglo-Saxon Pencil problem. For each *correctly demonstrated* solution we shall send the solver a Dixon's Anglo-Saxon Pencil (hexagon shape, yellow finish, medium grade with soft red erasive rubber) and a blotter upon which the problem is reproduced and illustrated in colors.

A Dixon Anglo-Saxon Pencil with five pieces of chain (see illustration) were given to a jeweler with the request that the five pieces be made into one whole chain. The jeweler said, "It will cost you forty cents, as I charge five cents to cut a link, and five cents to solder a link."

"No," said the customer, after figuring it up, "your rate of charge makes it but thirty cents."

Which was right?

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### TALK WILL NOT REBUILD OUR MERCHANT MARINE

No other object of vital national concern has received more consideration by our lawmakers, commercial bodies and public press than has the American overseas marine; but in spite of all this study and effort the United States stands today relatively less important among the maritime nations of the world than at any other time since its birth as a republic.

If argument and discussion could bring about a revival of American shipping, long ago our flag would have been a familiar sight in the harbors of the world, for in Congress and elsewhere every phase of American shipping has been considered not once but many times, and from every possible angle. There are a thousand documents prepared by government agents and others crowded with detailed facts and figures relating to shipping.

This seemingly endless discussion shows clearly that the reason why our overseas marine cannot expand is that American ships are unable to compete economically with foreign ships, because of certain advantages given to foreign ships by the countries whose flags they fly. Why is it, then, that after so many years of fruitless effort to revive our shipping Congress does not recognize this fact and take such steps as are necessary to meet the situation?

---

"IT IS certain that a clerk whose whole time and attention are taken up by petty personal interests and routine duties will never develop into an executive."

# GRAPHITIZED

**A Column of Paragraphites and Dixonized Happenings**

Hard work may wear out the body but never the point of a Dixon Eldorado Pencil.

"No, Evelyn, pencils do not come from Pennsylvania any more than collars come from Colorado, ties from Ticonderoga, and ore from Oregon. The only kind we recommend are 'made in Jersey City'."

"Life's Crucible" is the title given to a new moving picture recently exhibited at Sing Sing. Convict No. 265, who produced the winning title received a check for \$50.00. The picture told a story of prison reform.

"Having used various grades of Dixon's Products, both in lubrication and in pencils, I have always found them to be what you claim for them and the lubricants have often saved me great annoyance and much trouble in locomotive running and management."—H. E. COOPER, Locomotive Engineer and Air Brake Instructor, International Correspondence Schools, Scranton, Pa.

Sometimes it is the last half dozen words of an order that gladdens a day's work and this, from Brother Alban Bauer, Superintendent, Alexian Brothers Hospital, Elizabeth, N. J., contained the stimulating verbal sextette: "Please send us, when convenient, twenty-five pounds of Dixon's No. 677 Graphite Grease, for transmissions and differentials. The best lubricant on the market."

"Will you send a "Georgia Cracker" a copy of Dixon's "Useful Spanish Words and Phrases"? Thanks. I knew you would. I am a constant reader of GRAPHITE from which I gather a vast amount of information each month. Our road uses Dixon's all the time and finds it to be in a class by itself. We are small but always want the best."—W. M. KENDRICK, Storekeeper, Wrightsville & Tennille Railroad Company, Tennille, Ga.

Will some statistical fiend tell us how many words there are in a pencil, *i. e.*, how many can be written with a pencil of average seven inch length and of medium grade? If this seems too easy, he may let us know how many miles long one continuous mark would be if made with the same pencil. Do not be over enthusiastic about these problems, for you may have writer's cramp, that is, of course, if you happen to use any other than a smooth, easy writing and durable Dixon Pencil.

---

### DIALOGUE

Dixon's Silica-Graphite Paint is like an automobile!

How's that?

The power is in the "vehicle;" always an intrinsic part of it; it can't be detached from it.

I don't get you.

The "vehicle" is linseed oil; Nature's mixture of silica and graphite is ground into this vehicle, and this triple paint-bond gives you the most economical, longest endurance paint known.

I catch the idea. Dixon's Paint is not like a horse and wagon. It's like an automobile, because the power is *in* the "vehicle." Do I pass, if I use it next time I paint?

Sure! You'll pass the gates of experience and wisdom, and thus enter the promised land.

Just to help you remember "the master drawing pencil" for architects, draughtsmen, engineers and others who appreciate the best in pencil quality.



Made in JERSEY CITY, N. J., by the  
**JOSEPH DIXON CRUCIBLE COMPANY**

*Established 1827*

It writes white

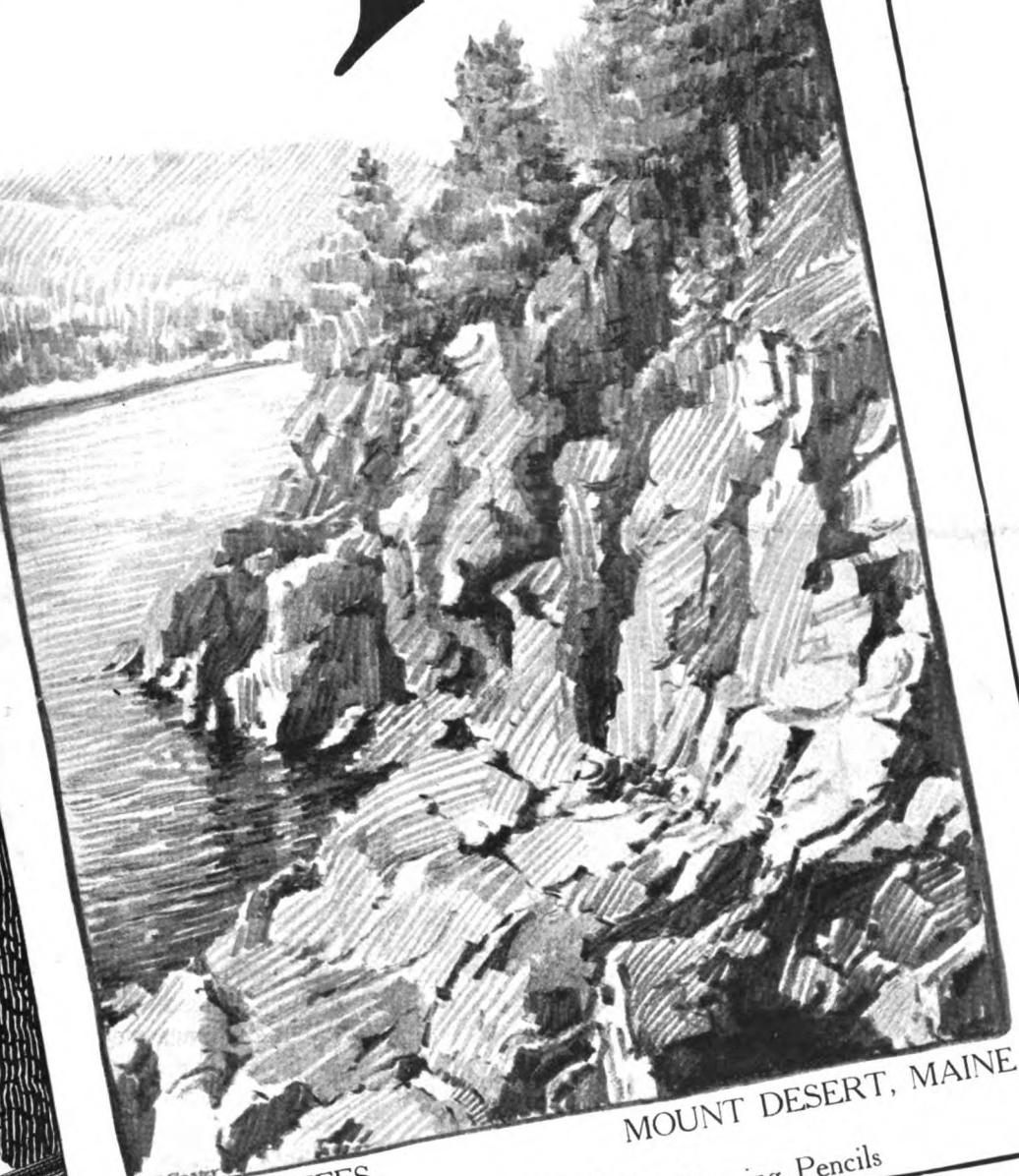


# For **Blueprints** **Photo Albums** and other dark surfaces

# DIXON'S BEST WHITE Nº 352

JAN 12 1916

# Graphite



OTTER CLIFFS

MOUNT DESERT, MAINE

Drawn with DIXON'S ELDORADO Drawing Pencils

Vol. XVIII

# January 1916

ESTABLISHED 1827



INCORPORATED 1868

**JOSEPH DIXON CRUCIBLE CO.**

JERSEY CITY, N. J., U. S. A.

**Miners, Importers and Manufacturers of Graphite,  
Plumbago, Black Lead.**

**OFFICERS***President*—GEORGE T. SMITH*Vice President*—GEORGE E. LONG*Secretary*—HARRY DAILEY*Treasurer*—J. H. SCHERMERHORN*Ass't Sec'y & Ass't Treas.*—ALBERT NORRIS**DIRECTORS**

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CHICAGO BRANCH, 1323 to 1327 Monadnock Block

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PITTSBURGH OFFICE, Wabash Terminal Building

ST. LOUIS OFFICE, 501 Victoria Building

BALTIMORE OFFICE, 616 Professional Building

BUFFALO OFFICE, 409 Erie County Savings Bank Building

ATLANTA OFFICE, 328 Peachtree Street

**EUROPEAN AGENTS**

Graphite Products, Ltd., 218-220 Queen's Road, Battersea, London

**SOUTH AMERICAN AGENT**

For all Products Except Dixon's American Graphite Pencils

Alfredo J. Eichler, 666 Calle Cangallo, Buenos Aires, Argentine

**CUBAN AGENTS**

For all Products Except Dixon's American Graphite Pencils

William Croft, Room 424 Lonja del Comercio, Havana

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**LATIN AMERICAN AGENTS**

For Dixon's American Graphite Pencils, Etc.

National Paper and Type Company, 31-35 Burling Slip, New York

With Branch Agencies in Mexico, Cuba, Peru, Argentine,

Uruguay, Venezuela, Porto Rico and Columbia.

**GRAPHITE**

January, 1916.

**READ YOUR CHILDREN'S CHARACTER IN  
THEIR LEAD PENCILS**

A young child is just a bundle of uncorrelated forces, nothing more, nothing less, and the one who expects little children to act as sages or saints is apt to receive a severe shock at times. For, in addition to "trailing clouds of glory," the child brings with him the uncut stones and the unhewn timbers, which in days to come may be built into a splendid temple of character—or the reverse.

And no person has such an opportunity of studying the child in relation to his different traits, as the school teacher. If teachers are in the least observant, they can determine just what sort of man or woman the boy or girl will become, by watching this picture play daily unreeled before them, whether in the way they do their work in the schoolroom, or play their games in the school yard.

But in no way does the child reveal his traits more than in the way he sharpens his lead pencil. Here is seen whether he is impulsive, destructive, wasteful, impatient, criminal or easy going; artistic, considerate, economical, thoughtful or careful.

The child who gouges out great pieces from the sides of his pencil, shows impulsiveness and generosity. If he breaks off a chunk with his finger nails, he shows destructiveness and an utter disregard of the feelings and rights of others. Should he smooth his pencil down to a long point, he shows an artistic temperament and a considerate disposition. If he cuts his pencil off in a stub, he shows economy, carefulness and quickness.

In fact, the way children sharpen their pencils is a very clear indication of what sort of men and women they are likely to be.

—*N. Y. American.*

**PORTRAITS IN PLUMBAGO**

**Rediscovery of an Old Art—the Wellesley Collection now on  
Exhibition in London**

The authorities of the Victoria and Albert Museum, London, have issued a scholarly catalogue of Francis Wellesley's remarkably interesting collection of miniatures in plumbago now on exhibition at the museum. The small, highly finished portrait in plumbago (a crystallized form of carbon) was a branch of art which flourished in the seventeenth and eighteenth centuries, and concerning which very little was known until recently published histories of miniatures in oils revealed an almost forgotten method. This catalogue, which has been compiled by B. S. Long, under the supervision of Sir Cecil Smith, is an important contribution to the subject and should lead to fresh discoveries of hitherto unknown artists. As many of the early engravers, such as Faber and Robert White, practiced the art, it is more than probable that portraits in plumbago were first done for the purpose of engraving. The difficulty of making an engraving from a life-size portrait in oils will be obvious even to those who know very little about engraving. The sketch in plumbago got over the obvious difficulty.

"SO LONG as our competitors own the ships they make the rates, they control the service and they determine the routes. With this power it is easy to favor their own commerce and discriminate against ours."



**DIXON COMPANY INVITES YOU TO VISIT  
THEM IN NEW YORK**

Are Proud of New York Office and Want Readers of "GRAPHITE"  
to Pay it a Visit

Both in-town and out-of-town visitors may count upon a warm welcome at 68 Reade Street, the New York branch of the Joseph Dixon Crucible Company, Jersey City, N. J. Great changes have recently taken place and friends and acquaintances who now enter the Metropolitan headquarters of the Dixon Company, direct an appreciative glance at the white ceiling and walls and at the mahogany finished display cabinets, desks and other office equipment. No other color conflicts with these two. The photograph conveys but little of the arrangements that have been made and are offered for the convenience and comfort of visitors.

A visit to the New York salesroom of the Dixon Company, gives to the pencil buyer a more illuminating and comprehensive idea of Dixon's Pencils, Crayons, Erasers and Pen-holders than could be gained through any other medium of display. Perhaps a chat will give you a new and different angle on pencil buying. Or perhaps a worth-while fact or so about belt dressing, graphite pipe joint compound or silica-graphite paint may make your visit profitable. A visit will, at any rate, make you acquainted with a prince of good fellows—John M. Ready.

Mr. Ready's private office, just as you enter, offers hospitality as well as privacy. And when three or four visitors come

at the same time, it means, perhaps, a gathering about a little table near the rear of the store. A visit to 68 Reade Street does not incur any business obligations. There are many things about Dixon's Graphite Productions that you will want to know about on your first visit. Courtesy is not only extended to all visitors, but it is service, too, that imparts to the visitor that sense of satisfaction that comes after one's time has been well spent.

**"HIGHEST" TESTIMONIAL**

The Philkill Steeplejack Company of Trenton, N. J., with branches in Chicago, New Orleans, Portland, Me., and Jacksonville, Fla., is the only organized company of its kind in America.

The work of this company is of the "highest" kind, actually and figuratively, by which we mean that they perform their work in the best manner; use the best materials made, and work "highest" up from the ground.

The said concern are "aerial contractors" for smokestacks, tanks, towers, gas holders, steeples, wireless stations, flag staffs, etc.

"We wish to state," writes A. L. Philkill, the president of the company, "that we have used Dixon's Silica-Graphite Paint on hundreds of stacks, tanks, standpipes, towers, gas holders, bridges, etc., and find it *paramount* among all protective paints."

## DIXONITES WHO PENCILIZE THE COUNTRY



No. 4—HERBERT L. HEWSON OF SAN FRANCISCO

"Curiously enough," said Mr. Hewson, "the first things I ever sold were lead pencils. I was only a youngster then in Oakland. I knew, however, that I possessed an instinct for salesmanship."

And at thirty-four experience of the most varied nature has proven the statement of this tall, smiling Dixonite. Selling advertising space in Tokyo, Japan, life insurance in China and bottled spring water throughout the Orient and India are some of the things Hewson has done. He speaks both Chinese and Japanese and writes Chinese, as witness his signature upon the portrait above. Since Roman characters have supplanted the old symbolic signs of the Japanese language, the fascination of writing his name as "Great Forest" is denied Hewson. Almost as extensive as have been his travels is the territory of over 1,000,000 square miles that he now travels as a representative of the Dixon Company.

Hewson first became identified with the Dixon Company in 1909. He knew very little about graphite and had never heard of a crucible and yet upon the first day he returned to the office with thirty orders—*small* orders but nevertheless, *orders*.

Hewson keeps a diary like Ben Franklin did and in it one may discover sparks of salesmanship just as Franklin discovered electricity—with a key. Our key happened to fit what follows and we unlocked this page from Mr. Hewson's diary:

*June 4, 1915. Being persistent won out today. A certain hard nut to crack got away from us about a year ago and —— got him. We were good enough to sell him when he was a small bean in the grocery world, selling groceries from pictures in catalogues, but since he has stocked fifty-seven varieties in his own brick warehouse, he has let some of the old lines—memories of one back room—slip. They were the lines that built his brick warehouse and Dixon being one of them, I wanted it replaced in its rightful position. Sometimes a little sentiment gets an order. It wants to be mixed with a good line of talk, backed by quality goods—and I had everything in my favor. But Mr. Buyer was a human glacier in this particular case. The feeling around the office was chilly, even to the employees, who were all in mourning because the humor in the master had died. To have laughed, cast*

*a smile, or slapped someone on the back, would have meant never to darken the door again. The correct garb of the salesman should have been that of an undertaker.*

*Well, I called three times on Thursday and three times on Friday—and on my sixth visit, Mr. Buyer looked over the top of his spectacles and said:*

*"Are you back again, you're too d—— persistent."*

*"How much would you pay one of your salesmen if he wasn't persistent? That's what gets orders. Will you please look up your stock with me now?"*

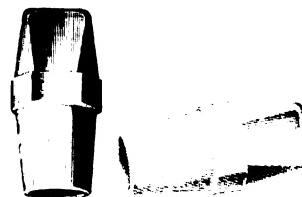
*With that remark this typical representation of the north pole thawed out and actually smiled as he handed me an order for fifty gross of pencils with the remark:*

*"I guess you're right."*

Incidents enough to fill a whole issue of GRAPHITE could easily be gathered from Hewson's adventuresome career, but as this is merely intended as a pencil biography and as an introduction to eastern readers of GRAPHITE, we shall wait for another occasion to present his story in full.

When we told Mr. Hewson what was going to happen to him in this issue of GRAPHITE, he cautioned us that many of his Pacific Coast customers would not recognize him in the garb of a pencil salesman. It is perhaps only justice to record that Hewson is equally happy selling automobile lubricants as he is when selling boiler graphite or Dixon's Silica-Graphite Paint or any of the many other Dixon Graphite Productions. Hewson has no particular preference and he is just as much at home in a foundry as he is in a stationer's store.

In December, for the first time in his life, Hewson came to New York and his fellow employés in Jersey City had an opportunity of knowing how fine they make 'em out west. The knowledge was anything but a disappointment.



## TRY THIS ON YOUR PENCIL

With a Dixon's No. 451 (gray) or a No. 451½ (red) patented, wedge-shape eraser upon your pencil, you may change your mind as often as you wish. This eraser will do the rest. And it's big enough to last for a considerable length of time. Why not equip your pencil to work just as hard for you at one end as at the other. Stop, the next time you are about to pass a stationery store and declare that you will buy a new bonnet for that hard working pencil. Take your pencil in to the man behind the counter and make him treat it to a new Dixon's No. 451 (gray) or No. 451½ (red) patented, wedge-shape eraser. The treat will cost you but one cent a (rubber) head. In the end you will be several ahead. Cut out the illustration so that your stationer may know just what you want.

"YOUR best colored pencils, samples of which you sent me, are exactly what I want. I shall take particular pleasure in speaking of these pencils to the Montessori teachers of our district in and about New York."—ETHEL F. CLEVES, 195 Harrison Street, Brooklyn, N. Y.



**OLD DOMINION PAPER COMPANY OF  
NORFOLK, VA., MAKES A DISPLAY  
OF DIXON'S PENCILS**

"I have had today," declared a citizen of Norfolk, Va., "a very liberal education in the art of pencil making." This man, like several hundred of his townsmen, had stopped to look upon the recent Dixon Pencil display in the window of the Old Dominion Paper Company, as reproduced in this issue of GRAPHITE.

The many Norfolkers who had always identified Eldorado as the "master drawing pencil," grew in number to a small sized army of particular pencil users. And the slogan "seven inches of pencil perfection" more than ever impressed the general pencil buying public that "Anglo-Saxon" upon a pencil meant "leads that never vary." Dependable Eldorado and sturdy Anglo-Saxon Pencils possess the confidence of all Norfolk, and the Old Dominion Paper Company's window display prompted many purchases of these pencils.

A process exhibit; one of those very interesting and ingenious moving mechanical displays of Dixon Brownies; framed pictures of the Dixon Fan Girl and the Dixon Razor Girl and placards finished with cedar grained backgrounds, were some of the attractions used by the Old Dominion Paper Company to induce the general pencil-using public to stop, look and buy.

"FOR the making of billiard balls 500 elephants are needed every year," said the famous big game hunter in his lecture on India. "How strange," whispered Mrs. Winsome to the lady who sat next, "that people can teach such great beasts to do such delicate work!"

**A SINCERE WISH**

"I didn't see any Christmas spirit in the December issue of GRAPHITE, and I don't see anything about the New Year in this proof of the January issue," remarked the editor of GRAPHITE to his sub. "Why neglect to thank our friends for the prosperity we enjoy; for the opportunities they have given us to add to their own happiness, efficiency and prosperity? Wish our friends a good New Year. Tell them that we mean it just as sincerely as—as—sincerely as we make Dixon's Graphite Productions.

"And those who have used Dixon's," remarked the sub., "will understand."

**WRITING TOOLS CHANGE**

**Slates and Pencils out of Date and Pen Points going, too**

The business of selling slates and slate pencils, once so general, is now confined almost entirely to remote districts and small villages. The picture of the old-fashioned child going to school always showed the slate as the principal equipment. Nowadays the pencil and the cheap writing pad are the things used instead. Not only are they more convenient, but hygiene pronounced slates unsanitary and that settled the matter.

A kilt of the Highlander Pypres,  
Who tried to say "Przemysl" and "Ypres,"  
Cried out, "Holy zounds!  
I ain't uttered such sounds  
Since I was a babe and wore dypres."

—Chicago Tribune.

## THE USE AND ABUSE OF BALL AND ROLLER BEARINGS

By F. J. JAROSCH

*Chief Engineer, Bearings Company of America*

CONTINUED

When mounting the inner race on the shaft, care should be taken to avoid striking hammer blows against the outer race or

against the ball retainer, as this treatment is liable to damage the raceways, balls and retainer. The best and simplest way for driving the inner race on the shaft is to use a tube (see Fig. 9) with a piece of wood laid across the free end. Light hammer blows upon the wood will

Fig. 8

produce an all around equal pressure against the inner race.

If the shaft is carried by only one radial bearing, it can be locked sideways in both races (Fig. 10). If two or more radial bearings are located on the same shaft (Fig. 11), and the housings are locally stationary, that is, cannot adjust themselves to the bearings, only one of the bearings should be locked laterally in *both* races, while of the other bearings, only one of the races—preferably the rotating race—should be locked sideways. The other races must be laterally free, so that these bearings can automatically adjust themselves to the bearing made tight in both races. Should all the bearings be jammed laterally in both races, it is to be expected that, due to the inaccuracies of the housing parts, all of these bearings would be under an axial pressure or strain, which consequently would have a detrimental effect upon their proper operation. To have the bearings jammed diagonally is also incorrect and should be avoided, as, for instance (see Fig. 12), a tightening of the housing cap, or as shown in Fig. 13, a pressure produced by a nut or tube against the inner race in the direction of the indicated arrows, will produce an axial pressure on the balls. This method of arrangement, however, will be used for ball bearings of the combined radial and thrust type as shown in Fig. 14,

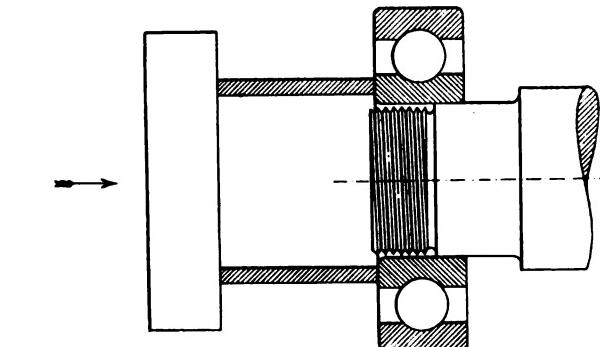


Fig. 9

and for taper roller bearings, these types being adjustable. As already stated in an earlier article, however, there is always a possibility that these bearings will be adjusted too tight or too loose, either one having a bad effect on the bearings. If a single-acting thrust ball bearing (Fig. 15) or a double-acting

thrust ball bearing (Fig. 16) is located on the same shaft with radial ball bearings and all are mounted in the same housing, or in housings which cannot adjust themselves to the bearings, one race each of the radial bearings must be laterally free, so that the entire axial load can be received by the thrust bearing.

There are a number of different locking devices recommended and used for the fastening of the inner race on the shaft, and the outer race in the housing, but as their construction largely depends on the space available for them, it would lead too far to go into details here.

### VII HOUSING-IN THE BEARINGS

Ball and roller bearings must be carefully protected from water, acids, alkalies and abrasives, as every one of these substances will shorten the life of the bearings. To prevent such foreign matter from entering the bearing from the outside, the housings must be closed tightly. The usual method of packing bearing housings consists of providing grooves (Figs. 17 and 18) in the housing or housing lid at the places where the shaft passes through, and pressing gaskets made of felt or the like into them or filling them up with a stiff grease. In bearing housings which are exposed to water or dust, it is advisable to arrange two or more of these grooves alongside of each other or to use an additional packing in the form of a leather washer (Fig. 19), which, when slipped tightly over the shaft, presses itself against the housing. Where the construction of the housing does not allow the arrangement of such packing grooves, the construction of the housing packing will be determined by the special shape of the housing parts and the space available.

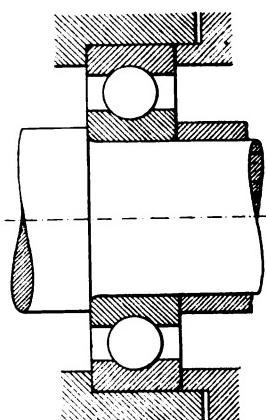


Fig. 10

### VII. LUBRICATION AND LUBRICANTS

As bearing failures very often result from improper lubrication or the use of impure lubricants, the question of bearing lubrication needs very close attention and consideration. It is an old rule, and it cannot be repeated too often that ball and roller bearing lubricants must not contain any water, acid, alkali, or any kind of abrasive. Such substances, whether they were originally contained in the lubricant as impurities or entered the lubricant later on, will greatly affect the highly polished surface of races, balls and rollers.

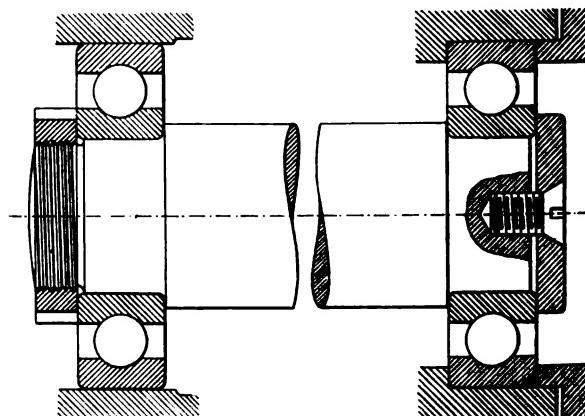


Fig. 11

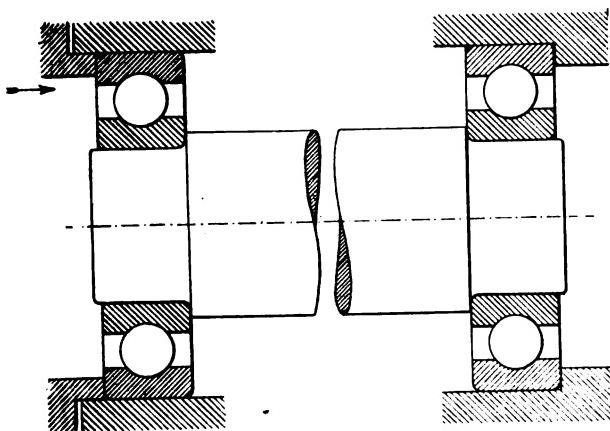


Fig. 12

The water will oxidize the steel and create rust, which will produce pits, especially on the high polished raceways and rolling members, while the rust itself will flake off and mix with the lubricant and will act as an abrasive between races, rolling members and cage. Acids and alkalis will cause an etching of the polished surfaces, making them uneven and rough, and consequently the bearing will wear and will soon be unfit for further service. Abrasives, such as sand, dirt, emery of carbondum, metal flakes, filings, etc., when mixed with the lubricant, will be carried to the surfaces of contact between the races, rolling members and cage, and at these places will have a grinding effect, thus causing quick wear. There are a number of possibilities for such abrasives getting into the lubricant. Housing castings for transmission and differential gear cases, if not carefully cleaned, may have sand sticking to the inside corners, which will loosen and mix with the lubricant. If the housings are not tight, all kinds of dirt in the form of dust will enter, and the lubricant will carry this dirt into the bearings. When assembling the gears and shafts and mounting them in the bearings and in the housings, very often emery paper or files are used to correct inaccuracies, and in case the unit is not washed out thoroughly, particles of emery and metal will soon affect the bearings. A careless and rough operation of the sliding gears in the transmission will break or

grind off small particles of metal which, when carried by the lubricant into the bearings, will soon cause a destruction of the high polished surface. Instances are known where emery, carbondum or other abrasives mixed with grease were used for smoothing rough gears, which substance, of course, also entered the bearings. As it is impossible to clean out bearings already mounted and housed, this grinding compound remained in the bearings, and very quickly ground off the raceways and rolling members. This practice is bad, and as it is most detrimental to the bearings, the user of it will have to blame himself for the consequences.

(To be Continued)

DIXON's graphite publications sent free upon request.

#### FROM THE CAVEMAN'S PENCIL

A good definition of "man" would be "the picture-making animal." Just as the school child usually begins to draw rude figures of men and women, dogs, cats and horses, as soon as it gets command of a pencil, so in the childhood of our race the pictorial genius of humanity showed itself by rude drawings and rough paintings made on the walls of the caverns which were men's first permanent homes.

Within a few years past a great number of prehistoric cave pictures have been brought to light, especially in the lower slopes of the Pyrenees Mountains, on both the French and the Spanish sides, and in the mountains of southern Spain.

The pictures are not mere curiosities, but throw light upon the character of those ancient representatives of man, and upon the appearance of the world at a time so remote that even the use of iron, bronze or copper had not yet been dreamed of. To come upon them in the gloomy recesses of caverns, which are often situated in places not easily reached, is like getting an unexpected view behind a curtain that has not been lifted for many ages.

The outlines of the drawings are so like the rude sketches made by children that one can, at first, hardly persuade himself that they are the work of men doing their best to picture the scenes around them, while, on the other hand, the drawings are so perfectly preserved, in many cases, that it is equally difficult to realize their enormous age.

In the caves examined and photographed by Colonel Verner the drawings are usually made with red or yellow pigments on the light colored sandstone of the walls. Sometimes there are two or three sets of drawings which have been made one over the other with different colored pigments. The animals represented include stags, hinds, ibexes, oxen, horses, wolves, dogs, fishes, birds, etc., as well as men and women.

A very interesting circumstance is that some of the men are represented as carrying bows. Colonel Verner thinks that the pictures in one of the Andalusian caves were intended to represent hunting scenes. This is extremely interesting, because the same motive is found in many of the drawings of a much higher artistic character that were made by the ancient inhabitants of Greece and of Crete.

The presence of bows in the Neolithic drawings of Spanish caves raises the question of the antiquity of the use of that weapon. The bows themselves, being made probably of wood, could not survive through thousands of years, but the pictures show that they existed.

As authentic memorials pertaining to a time so remote that no other form of history has survived, and when no great, lasting monuments like the pyramids had yet been undertaken, or could have been thought of, these cave pictures possess a value and interest that are almost unrivaled in the whole range of human history and prehistory.

—GARRETT P. SERVISS in the *New York Evening Journal*.

SAYS Walter Leslie, the famous comedian who appeared in *Town Topics*, "I am not the originator of slang, Shakespeare had me beaten to it by centuries. So did many another poet, notably Pope, who says:

"You can beat your pate, and fancy wit will come,  
Knock as you please, there's nobody at home."

Alexander Pope, the English poet, died in 1744.



ELDON LAKE

THE ALDRO LARSON

**NOTES ON THE USE OF DRAWING PENCILS**

By SILVIE DE G. COSTER, Sup'r Drawing, Evander Childs

High School, New York City

A most fascinating medium, when skillfully employed, is the verdict of those who play on the gray velvet tones of lead pencils. Neither is there any clever trickery about its technic nor anything in the nature of special method. Like other mediums it must give you "scale" and "key." It must give you intensity from the most delicate brushing of the surface to the heaviest pastel stroke. It must give you the smoothest tone, though light. These things good graded pencils can do; and there is no more exquisite contrast than that obtainable by the heavy stroke of the soft lead and the solid steel gray of the hard lead.

Subjects should be chosen with special regard for this pictorial quality of contrast. A Greek vase of finely modulated planes becomes a mere study in structure if attempted in lead pencil. Nature subjects where rough masses superimpose upon dimmer ones; landscapes, flowers, buds, shells, old buildings—these are the true field of the lead pencil artist.

It is easy to begin with five tones and as your analysis of subject grows readier, to increase by using groups of neighboring grades as units. For instance 6H, 3H, HB, BB, 4B, are well graded degrees of which to become master at first.

Sketch in with 6H and mass in with the same pencil all lights on near objects, leaving the white paper for high lights. With 3H work in the dimmest background. With HB work in the halftones in the foreground, adding the full darks in 2B and the accents in 4B. For example of this use see the sketch of Eldon Lake, near Raquette. Practice will soon reduce this method to a mere mechanical substructure of tone. Soon, around the 3H you can play with subtler rendering, using 2H and 4H and H grades in the background but never using the 6H, 7H and 8H. These should be saved for lights in the masses in the foreground. Then around the halftones in HB you can group lesser tones in Hard B, and for darks within darks you can use 3B. By developing the power of each lead from light to heavy pressure you can develop an almost ilimitable range of tone. By retaining the first five grades in your composition in their full strength you will maintain the integrity of your light and shade, of your "planes."

There are those who do not believe in superimposing pencil strokes. These people miss a great pleasure. A soft pencil stroke over a mass done in a hard grade will result in color value that is often exquisite and in a coherence of form not obtainable by patching masses side by side. For an example of the former method see the birch tree in the Eldon Lake sketch.

Finally there is no other medium whose reward is comparable to that of a lead pencil when convenience, simplicity and general adaptability are considered.

In my sketches of Eldon Lake and Mt. Desert, the latter appearing upon the cover of this issue of GRAPHITE, I have worked with the several grades of Eldorado mentioned above and find them to be truly of "the master drawing pencil."

### WHY HE ORDERED DIXON'S FLAKE GRAPHITE

An engineer who was obliged to get along with particularly inferior oils and greases was asked why he ordered Dixon's Flake Graphite along with his regular supply of lubricants. He said that this query reminded him of a commercial traveler who one day, at a small hotel in a Southern town, ordered for his breakfast two boiled eggs. When the old darky who served him returned, he brought him three. "Why in the world did you bring me three eggs?" queried the traveler. "I only ordered two!" "Yes, sah," replied the old darky, with a smile and bow, "I know you did order two, sah, but I brought three, because I jest natcherly felt dat one of dem might fail you, sah."

### AN ORDER FROM THE INTERIOR

In seeking out the habitats of pencil users, a pencil missionary, since turned professional, happened one day into a Boston office of foreign missions. He was perhaps inquisitive of the work that other missionaries were doing. "Do you have," he inquired, "much of a demand for pencils from your representatives in foreign countries and if so, can I not induce you to supply Dixon's?" "No need of that," grinned the office superintendent, "here's a requisition from Central East Africa, six hundred miles in the interior. It is for one No. 6 H Dixon's Eldorado Drawing Pencil."



#### LET THE SPEED KINGS DO YOUR WORK

This, as may be seen in our reproduction from a window display of Dixon's Graphite Automobile Lubricants, is the way that the Albany Hardware and Iron Company of Albany, N. Y., advertises its allegiance to the automobile accessory and supply consuming public. Count the speed kings or, if you prefer, automobile racing drivers. Each of the faces on these posters may be said to represent a moving picture story—moving sometimes at over one hundred miles an hour and at the end with transmission and differential lubricant in perfect condition. In the selection of automobile lubricants, the hardware dealer cannot over-estimate the tremendous importance of such good will as that of racing drivers. Millions of dollars have been spent this year in building speedways. The same public that goes to see automobile races—not to mention the stay-at-home army of readers—also buy automobile accessories and supplies at hardware stores. To see or to read of a race is not alone worth the price of admission to many in these armies. What tires, what carburetor, what lubricant does Cooper, Andersen, Resta, etc., use? To the last inquiry the answer from coast to coast and from border to gulf is always DIXON'S.

In addition to the window dressing material illustrated in the display of the Albany Hardware and Iron Company, the Dixon Company publish over half a hundred photo-testimonial window display cards, each of which quotes what some particular driver has said of Dixon's Graphite Automobile Lubri-

cants. For distribution among his patrons, the hardware dealer is also furnished with "Words of Wisdom from the Speed Kings," a pocket-sized combination of both posters and cards.

#### SOLUTIONS TO ANGLO-SAXON PENCIL-CHAIN PROBLEM

Over two hundred and fifty of our readers responded with solutions to the Anglo-Saxon pencil-chain problem published in the last issue of GRAPHITE. Each has been rewarded with "seven inches of pencil perfection" and the Anglo-Saxon pencil-chain blotter as advertised. A good third of the solutions came from our railroad friends and the result dispelled our "suspicions over the penetrating powers of GRAPHITE readers."

Many of the letters contained references to the problem written in a lighter vein, and perhaps the few reproduced below will be of interest to our readers.

*"The customer is always right."*

*"It looks to me like thirty cents."*

*"I would say that the Dixon Anglo-Saxon is always 'write.' These readers looked from both sides of the counter:*

*"Of course, if it were a piece work price and a man wanted to nurse the job, it would be done by cutting a link on each piece and making four welds at a cost of forty cents."*

*"Both are right. A thrifty customer will never overlook that one of the chains containing three links can be cut and soldered at five cents each, while a thrifty jeweler will more readily recog-*

nize the fact that he can cut a link in each chain and then solder it."

"The customer is right and I don't blame him for wanting to save the dime these hard times."

And the chain came in for some friendly comment:

"Kindly see that the chain on my pencil is properly fastened."

"In case you send a pencil with a chain, please send one that is joined, as we have not the thirty cents to pay for having the chain joined."

"Presume this chain was broken apart by borrowers who tried to make away with a good pencil. You don't need a chain on a poor one to keep it."

This reader took nothing for granted:

"In the first place four of the links would be already cut or the chain would not be in pieces providing there were none of the links lost. Then it would cost but twenty cents, but if the four links already broken were lost, the cost would be but thirty cents."

Some, giving the correct solution, said that:

"This problem was given to the different members of our office staff to work out and they all claim that it was dead EASY."

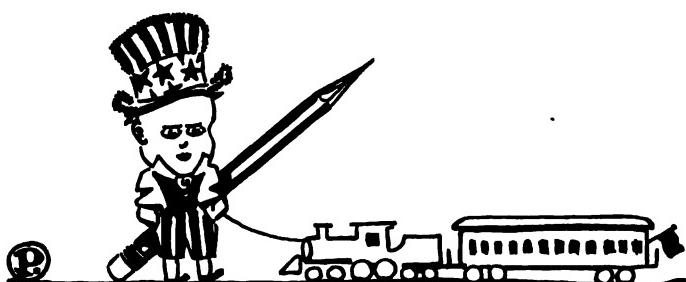
And others, giving the wrong solution, said that:

"In regard to the puzzle in GRAPHITE. I find that the jeweler is right. The cost is forty cents."

Many readers contributed problems to the editor and from time to time these will appear in GRAPHITE.

#### AN UNPLEASANT EXPERIMENT

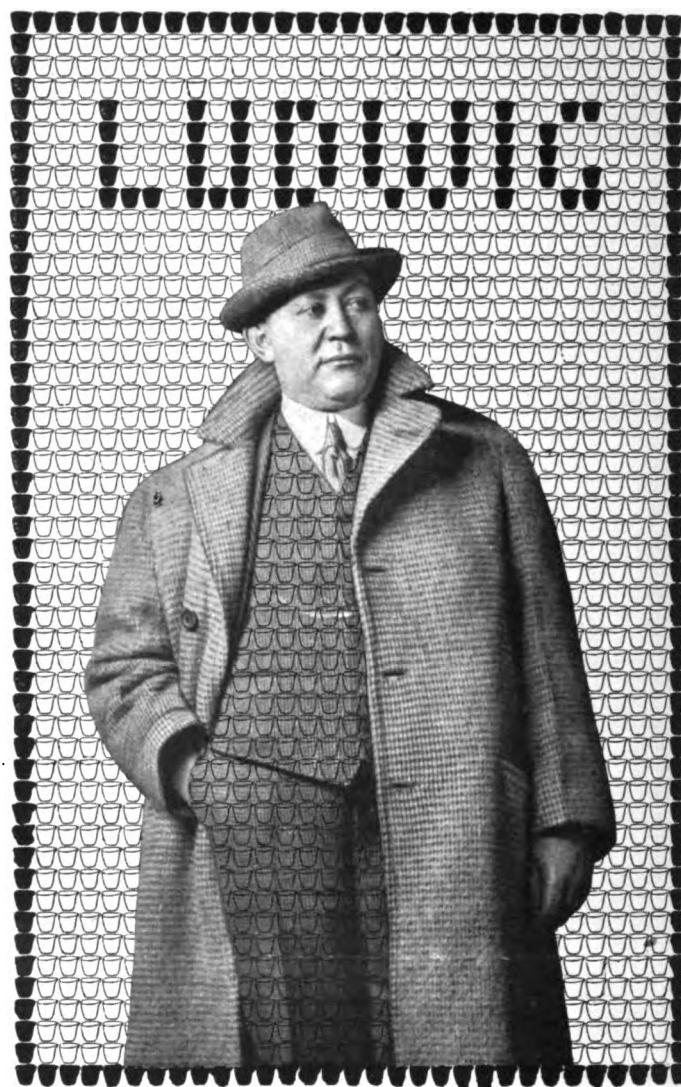
"Between open-mindedness and careless experimentation there's a great difference," said a chief engineer and a staunch advocate of Dixon's Flake Graphite. The experience of a fellow engineer who once used mica as a lubricant reminds me of the woman who handed her husband a saucerful of white powder with the request: "John, taste that and tell me what you think it is." "It tastes like soda." "That's what I told Bridget. She declares it's rat poison. Taste it again to make sure."



#### UNCLE SAM'S ETERNAL YOUTH

Our hat is off to a certain enthusiastic advertising agent of a manufacturer. In a recent advertisement, one of this manufacturer's products (which has been on the market for little more than a decade) is announced as having been "used by Uncle Sam since he was a boy." We could understand, if Uncle Sam were of the gentler sex, the subtle flattery of such an announcement, but as it stands it seems to forget that Uncle Sam is no longer in the infant class.

"HIS SOUL awoke and with the soul woke the mind. He discovered that true work paid and nothing else did pay."



To the readers of GRAPHITE we take great pleasure in introducing Mr. Wallace P. Ludwick, better known as the village story teller, whose photograph appears accompanying these paragraphs.

His specialty is southern stories, and from the reports we gather he is a past master at the art; however, he has another vocation which he is still more proficient at, namely that of a brass moulder. For thirty-three long years he has been connected in the above capacity with various brass foundries from the east coast, west to Chicago and south to Alexandria, Va., including some of the largest shops in the country. He has been employed by Mackintosh, Hemphill & Company, Pittsburgh, Pa., for over fifteen years. His long and varied experience has placed him in a position to be an excellent judge of crucibles and if you were to ask him which he considers the best, you would get the reply: "Why, Dixon, without a doubt," and we consider his recommendation worthy of consideration owing to the variety of experiences he has had.

#### HABIT

The Doctor—I have to report, sir, that you are the father of triplets.

Politician—Impossible! I'll demand a recount.

—Wroe's Writings.

**IMPORTANT TESTIMONIAL**

Mr. D. L. Fagnan is widely known as a careful and expert erecting engineer. He has erected plants for the De La Vergne Machine Company, and is now connected with D. Winant, Inc. He is kind enough to write the following, as a result of his wide experience.

1080 Simpson Street, New York City.

October 19, 1915.

*Joseph Dixon Crucible Company,*

*Jersey City, N. J.*

**GENTLEMEN:**—If my letter will induce engineers and superintendents to try Dixon's Silica-Graphite Paint to protect all iron work such as ammonia coils in brine tanks (after and during erection), as well as all piping, etc., erected in plants along the sea coast, it will greatly serve everyone concerned.

I have recommended Dixon's Graphite Products for the last nineteen years, ever since I first began using them.

Before that I tried all kinds of anti-rust paints and only got fair results. I felt disappointed and finally believed I could get better results with Dixon's Silica-Graphite Paint.

We have used Dixon's Paint on ammonia condensers and on piping on roofs, where sea water is used for condensing, and notwithstanding these severe conditions the surface is in fine shape.

Since using Dixon's Silica-Graphite Paint I have set my mind at rest on that subject. We had serious conditions at my plant. The iron work was never cared for properly, hence the rusting had become serious. The first coat applied in winter time did not seem to protect it thoroughly. I decided to wire-brush the rusted spots and properly protect with Dixon's Silica-Graphite Paint.

The enclosed questions will probably be of interest.

Yours very truly,

(Signed) D. L. FAGNAN, *Erecting Engineer.*

**METAL AND PAINT QUESTIONS BY D. L. FAGNAN, EXPERT  
ERECTING ENGINEER**

(1) Can anyone tell why the average iron worker who is sent out to attach, repair or overhaul iron shutters at the rear of many New York buildings, who, seeing the enormous ravages of rust on such shutters, uses nothing but red lead, or cheap paints, to daub on again, and then goes away satisfied that his work is well done?

(2) Can't that iron worker use his brains and his conscience and report to his company that the paint they use on the shutters does not protect in the least? Why does not his company, which makes a specialty of such work, carefully inspect and look into the matter and do their work so it will last for years, without such excessive deterioration as is evident on many New York buildings?

(3) The framer of these questions has watched many such iron shutters installed in the Fall, and owing to poor paint protection they were seriously rusted away by the next Fall. Some had to be repaired. In some instances one-eighth inch of rust had accumulated, and it seemed a shame to allow such things to happen, a clear waste. Who is responsible for such a condition?

(4) I believe the companies who make a specialty of making and hanging shutters, gates, iron fences, etc., on New York

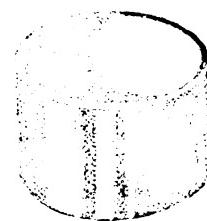
buildings, are to blame for the deterioration and profit greatly thereby, as they must sooner be called upon to make new ones, and the overhauling and repairing gives them additional work. They know very well that proper paint protection would lessen their construction work, and hence they take no interest in the expense the owner is put to on account of shutters, fences, etc., rusting out. It does not come out of their pockets. Managers and superintendents and owners of New York buildings do not seem to know of the "better protection" and the "longer protection" that Dixon's Silica-Graphite Paint will give on metal work. Why is this?

(5) Do they not know that iron work, if properly wire-brushed, cleaned and dried, and painted with three coats of Dixon's Silica-Graphite Paint, will absolutely be protected, in my experience, for from *five to eight years*, and sometimes *longer*? Why do the interested owners and managers of New York buildings not take an interest in these facts of yearly economy and longer service?

**DIXON'S ASSAY (SAND) CRUCIBLES, "WONDER"  
CUPELS AND SCORIFIERS**

The recent introduction of Dixon Assay Crucibles, Scorifiers, Cupels, etc., is rapidly establishing normal conditions in a market badly depleted of foreign products.

Present prices of Dixon's Assay Crucibles, Scorifiers, Cupels, etc., are somewhat higher than the imported makes although, as the scarcity of foreign production grows and orders for Dixon's increase, these prices are expected to meet or possibly become lower.



Dixon's Wonder Cupel



Dixon's Scorifier

Assayers who have for years regarded imported cupels as the only satisfactory production of its kind, are astonished to find in Dixon's "Wonder" Cupels all of the necessary qualities needed for perfect cupellation. They are made of such strength that breakage in handling becomes almost impossible. Users of Dixon's "Wonder" Cupels are assured of a minimum loss of precious metals in cupellation and of most satisfactory service from them. Dixon's "Wonder" Cupels are packed in lots of 100, 500 and 1,000.

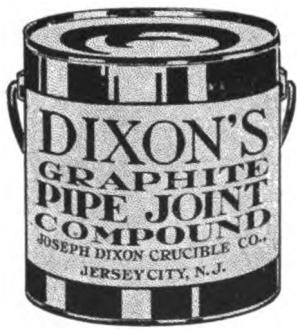
Information concerning the sizes, capacities, prices, etc., of Dixon's Sand or Assay Crucibles and Dixon's Scorifiers, is contained in folder No. 190-A, which will be sent free upon request.



Dixon's Sand Crucible

**POOR LITTLE FELLOW**

A Canadian newspaper calls attention to a nursing bottle advertisement that concludes with the words: "When the baby is done drinking it must be unscrewed and laid in a cool place under a tap. If the baby does not thrive on fresh milk it should be boiled."—*Youth's Companion*.



## Saves time, temper, tools and all threaded pipe connections

- 1—Makes tighter joints than any other material for water, gas, steam, air, brine or oil piping.
- 2—Reduces labor of making joints, because the graphite lubricates the threads.
- 3—Protects the threads against rust, acids, alkalies and corosions of all kinds.
- 4—Is not affected by any degree of heat or cold.
- 5—Never sets or hardens, and joints may be opened at any time without injury to pipe, fitting or tools.
- 6—Ideal for hand-hole or man-hole covers, boiler tube caps, flanged joints.
- 7—Prevents destruction of gaskets in opening joints.
- 8—Unsurpassed for bolted-up work—bolts, nuts, studs, and screws.
- 9—Reduces the time and labor in all classes of pipe work.
- 10—For any given job it costs only half as much as any other material.

*Send for booklet No. 190-D, "Graphite Pipe Joint Compound."*

Made in Jersey City, N. J., by the

**Joseph Dixon Crucible Co.**

ESTABLISHED 1827.



## —But Don't Expect Best Protection

from a paint containing free silica. There are many graphite paints, but there is only one paint with a pigment of "silica-graphite." Nature has provided

# DIXON'S SILICA GRAPHITE PAINT

with a pigment unlike that of any other. The fine particles of silica and the thin flakes of graphite are so intimately associated that mixed with pure boiled linseed oil, it does not settle into a hard mass. More important, though, is the even distribution of oil and pigment, and therefore the LONGEST SERVICE protection. Get detailed information concerning your paint requirements.

Write for booklet No. 190-B to the  
**Joseph Dixon Crucible Co.**  
Jersey City, N. J.

# Graphite

Vol. XVIII

FEBRUARY, 1916

No. 2



Produced with Dixon's Drawing Pencils by W. A. Sims. (See page 3899)

**ESTABLISHED  
1827**



**INCORPORATED  
1868**



## **JOSEPH DIXON CRUCIBLE CO.**

**Jersey City, N. J., U. S. A.**

***Miners, Importers and Manufacturers of Graphite, Plumbago, Black Lead***

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GEORGE E. LONG . . . .	<i>Vice-President</i>
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### **SOUTH AMERICAN AGENT**

For all Products Except Dixon's American Graphite Pencils  
Alfredo J. Eichler, 666 Calle Cangallo, Buenos Aires, Argentine

### **CUBAN AGENT**

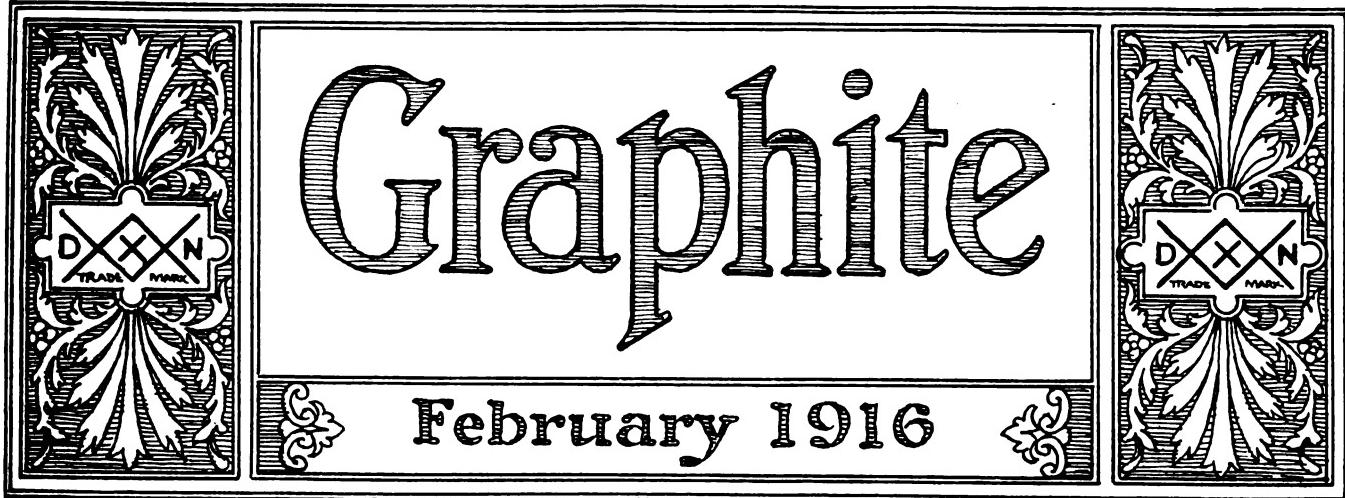
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For Dixon's American Graphite Pencils, Etc.  
National Paper and Type Company, 31-35 Burling Slip, New York  
With Branch Agencies in Mexico, Cuba, Peru, Argentine, Uruguay, Venezuela, Porto Rico and Colombia



# Graphitized Comments

## A Few Paragraphs of General Interest

WHAT is it that melts even in winter? Dixon Crucibles! Do you use them!

"WE use your crucibles, graphite, and many other of your very good products, and think Dixon's goods are O. K."—R. E. Nowlin, Chief Clerk, Charlotte Harbor and Northern Ry., Arcadia, Fla.

"WHEN I use Dixon's Flake Graphite," said an engineer, "it takes away a letter from the word 'friction,' and the remaining letters spell what becomes of my lubricating troubles." Try it out on a troublesome bearing!

"BY the way," asks a reader of GRAPHITE, "what kind of stickem do you put in Dixon's Solid Belt Dressing? It always prevents slipping and keeps the belts in the best of condition." Expressive but nevertheless convincing. Does it suggest anything to you?

"IT takes sixteen pencils to write my name," explained a retail stationer, and his name was just 'Jones.' "When I make a display of Dixon's Pencils I always link my own name with the display by forming the letters with the pencils. This is one advantage of having a short name. If I had one of those long Russian or German names, I would have to carry an overstock of pencils."

"I HAVE used a number of different makes of pencils, and if there is a better pencil than Dixon's, I have not found it as yet."—Mr. F. W. Brenchley, 603 Washington St., Susquehanna, Pa.

SEVERAL new members received by the First Presbyterian Church, Davenport, Washington, were high-school pupils. They had been influenced to join the church by an address on "A Lead Pencil," given before the Sunday school by a student of the high school.—Forward.

THE divine muse of inspiration lives in the other ends of pens and pencils.

The world owes many of its masterpieces of literature and invention to the reflective nibbling of these instruments; and if I were a teacher I should think twice before I told my pupils to take their pencils out of their mouths.—Gouverneur Morris, in *Cosmopolitan Magazine*.

AN old friend from Huntingdon, Pa., writes that: "It may be some satisfaction to you to know that for years I have boosted Dixon's Graphite Productions, as Paint, Pipe Joint Compound and lastly for boilers—to say nothing of lubricants—and I will not be surprised to hear of some new use." It is a satisfaction to hear from such an optimistic friend. We should like to experience this satisfaction more

often. If there's anything you've hesitated to write, ask, kick, or compliment us about, give it to our Uncle Sam's P. O. boys.

"IN August, 1915, I was in charge of a locomotive with a burst side rod collar at the main pin. I applied graphite (flake form) mixed with common soap, and at the end of a 37-mile run there was not the slightest evidence of heating. This is only one of the several experiences I have had with Dixon's Graphite. It is truly the friend of any locomotive engineer, or any one who has bearings to keep cool."—H. S. Gray, Clayton, Del.

WHEN in the great Astor Cup Race, at the Sheepshead Bay Track, "Gil" Andersen drove his Stutz around the course at a terrific clip, smashing all previous records, he steered clear of friction by using Dixon's Graphite Grease for transmissions and differentials. Andersen says, "Dixon's Graphite Automobile Lubricants for several seasons have been used by Stutz racing teams." All but one of the cars in this great contest were lubricated with Dixon's Graphite Grease. Of greater importance, however, to the man who learns his lesson in automobile lubrication from the experience of racing drivers, is the fact that the winner in practically every road, track and speedway contest of 1915 used Dixon's Graphite Lubricants.

## Dark Days for the Timid

**T**HESSE are dark days for the timid. Everything threatens. War is abroad in the world; to be in it is highly perilous, and to be out of it is to be neutral and heartily disliked and envied by all the participants.

If we don't buy some ships, the tide-waiting exporters will say we are pro-English, and cowards at that. If we do buy them and put government vessels into trade, we are assured on very high authority that we will buy a quarrel with every ship.

If we increase our armament and try to take a few measures for self-protection in case of emergency, the pacifists tell us that we are trifling with our only sure defense, which is our helplessness. If we neglect our armament and let our navy run down, the militarists assure us that the first competent military power that gets mad at us will take anything we have and make us pay for the trouble.

The bankers, the railroads, "the system," the interests and the trusts threaten our liberties and our right to work; the I. W. W., the uplift, the hayseed Democrats and the Socialists threaten our dividends and our right to hire labor; the Single-taxers and the Suffragists threaten the rest of our privileges, political, social, educational and domestic.

If we sit at home the eugenists get after us and drive us out; if we venture out the automobilists chase us from the streets and drive us in.

If we are obtrusively active the efficiency-sharps get after us and say that we are wasting energy; if we rest, they punch us up and say that we are losing time.

If we take a drink the Prohibitionists come with a paste-pot and label us "poisoned"; if we refuse drink, the "good fellows" say it was a pity to have drunk so much in early life.

Parlous times, these; very parlous.—*Life*.

## For 1916

**P**ERHAPS it is not too late to offer this thought for the consideration of those who neglected or

overlooked the making a resolution for 1916. It is from the pencil of the late "Master of the Roycrofters," Fra Elbertus Hubbard:

"I desire to radiate health, cheerfulness, sincerity, calm courage and good will. I wish to live without hate, whim, jealousy, envy or fear. I wish to be simple, honest, natural, frank, clean in mind and clean in body, unaffected, ready to say 'I do not know' if so it be. To meet all men on absolute equality. To face any obstacle and meet any difficulty unafraid and unabashed. I wish others to live their lives too, up to their highest, fullest, best. To that end I pray that I may never meddle, dictate, interfere, give advice that is not wanted, nor assist when my services are not needed. If I can help people, I'll do it by giving them a chance to help themselves, and if I can uplift or inspire, let it be by example, inference and suggestion rather than by injunction and dictation; that is to say, I desire to be radiant—to radiate life."

## Painters' Rush Job

**C**LATTER, clatter, bang! Down the street came the fire engines. Driving along ahead, oblivious of any danger, was a farmer in a ramshackle old buggy. A policeman yelled at him: "Hi, there, look out! the fire department's comin'!"

Turning in by the curb the farmer watched the hose cart, salvage wagon and engine whiz past. Then he turned out into the street again and drove on. Barely had he started when the hook and ladder came tearing along. The rear wheel of the big truck slewed into the farmer's buggy, smashing it to smithereens and sending the farmer sprawling into the gutter. The policeman ran to his assistance.

"Didn't I tell ye to keep out of the way?" he demanded crossly. "Didn't I tell ye the fire department was comin'?"

"Wall, consarn ye," said the peeved farmer, "I did git outer the way fer th' fire department. But what in tarnation was them drunken painters in sech an all-fired hurry fer?"

—*Exchange*.

## Too Much Money

**T**HE *New York Times* says: "This country has never learned how to get rid of unnecessary circulation. In fact, there is more money in circulation now than ever before, although the needs of trade are less than in several other years. No doubt the Federal Reserve notes in time will contract as well as increase in volume, but now they are an addition to an existing excess. Under normal conditions we should export the surplus gold, and take back what we want more. But now we are unable to import goods, for they are not produced. Yet we are under compulsion to sell, so great are the necessities of many nations, and there being no other producers upon the scale of present wants. Our gold is cheaper than our goods. Foreign countries need our gold more than our goods, except only those necessary to sustain life or conduct war. Yet foreign buyers take what we could consume, and leave us the gold which we degrade into pocket pieces, so little have we learned to put it to better use."

"Perhaps it is as well, for there is no way of using our excess of gold, if put to banking use, without an orgy of credit inflation. We are now in an era of inflation, with a discount upon all foreign moneys. The premium upon the American dollar is only paid by those who lack it. For those who collectively have too many of them there is a discount upon the dollars in comparison with some of the goods for which the dollars exchange."

"In 1915 there were afloat national bank notes to the total of \$786,643,647, although in 1914 the country got along very well with \$718,085,637 for a larger business."

## Did He?

**A**FTER the clock struck eleven, the peevish father strode to the top of the stairs and called down:

"Mabel, doesn't that young man know how to say 'good night'?"

"Does he?" echoed Mabel from the darkened hall below. "Well, I should say he does!"

# The Use and Abuse of Ball and Roller Bearings

By F. J. Jarosch

*Chief Engineer, Bearings Company of America*

## (CONCLUSION)

A SIMPLE experiment in order to find out if the lubricant contains corroding substances is to cover a steel surface with the lubricant, and expose it to the sunlight for about two to three weeks. If the lubricant contains acids the steel surface will show etchings, while water will oxidize the steel and the surface will show rust pits. This experiment should be made with a highly polished steel surface and a roughly ground surface, as the effect of acid shows up best on a polished surface, while the rusting can be observed better on a rough surface.

When speaking about lubricants for bearings in automobiles, motor trucks or other kind of power-driven vehicles, it is a matter of fact that the same lubricant which is used for the gears, motor and other parts of the car will also have to lubricate the bearings, and therefore such lubricants known on the market under the general name of "automobile lubricants" will have to be considered.

Animal and vegetable fats and oils contain fatty acids which may become free as a result of age and high temperature and are then in a condition to corrode metals. Many vegetable oils become gummy and

mobile lubricant, but their qualification for this purpose depends not only on the quality of the oils, but also on the method of compounding. As it is seldom possible for the user to determine upon these points, he must rely largely upon the reputation of the manufacturers.

Speaking specially of lubrication for ball and roller bearings, it is usually recommended to use oil for high speeds and to use grease for low speeds and heavy loads. Considering the extremely small area of contact between balls or rollers and races, and consequently the extremely high pressure per unit area, it is very difficult—and in bearings for very heavy loads almost impossible—to provide a permanent film of oil or grease between the surfaces of contact in order to prevent a metal to metal contact. The best way to overcome these difficulties seems to lie in the use of oils and greases mixed with graphite. In these compounds the oils or grease serve more or less as a vehicle which carries the graphite to the surface of contact. The graphite used must be extremely fine and pure and prepared by the manufacturer with this particular use in view. Experiments have proven that a selected variety of finely ground flake graphite is best suited for this purpose. Because of its form it adheres firmly to the bearing surfaces, and because of its toughness it forms an enduring film.

Another vital point to be considered in ball and roller bearing or automobile lubrication is that some lubricants which may serve splendidly at a normal temperature will lose their lubricating quality at high temperatures or become stiff at very low temperatures; for instance, it has been determined that some automobile lubricants of a certain grade were satisfactory in summer time, while they absolutely failed during the winter time in colder parts of the country. Therefore, all oils or grease should be tested and guaranteed not to change their composition or viscosity at high or very low temperatures.

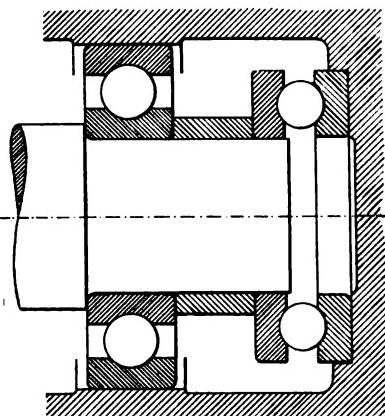


Fig. 15

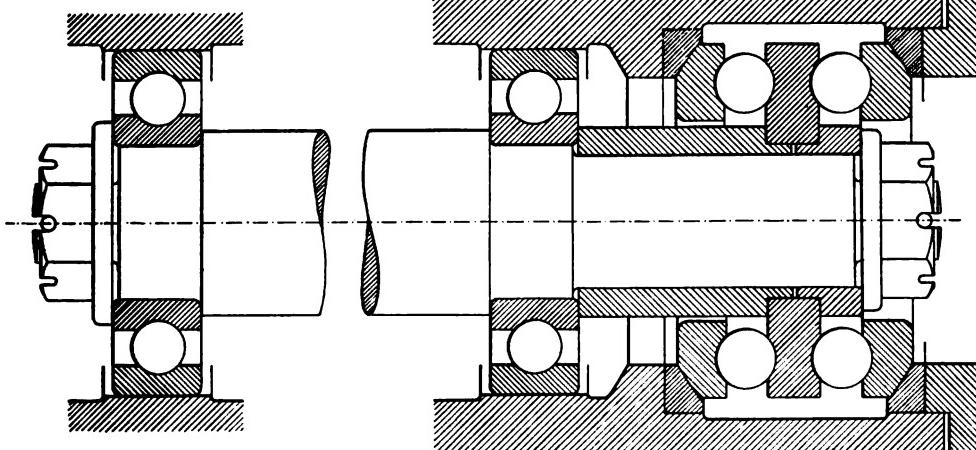


Fig. 16

thicken, thereby losing their lubricating properties.

Pure mineral oils and mineral oil greases have been found most suitable for ball and roller bearing or auto-

temperatures up to 250 degrees F. should not have any appreciable effect upon high-class ball or roller bearing material, but for higher temperatures it would be necessary to decrease the ratings of their carrying capacity. Furthermore, provision will have to be made for the expansion of the

bearing material and the material of the shafts and housings; for instance, in crank shafts the soft material of the shaft will expand in an axial direction to a larger extent than the races of the bearings. In case the races are locked sideways and the balls and rollers are assembled without lateral shake, the lateral expansion of the shaft will produce an excessive axial pressure upon the balls or rollers which may overload the bearing and make it noisy. Therefore, ball or roller bearings for crank shafts or other shafts which are liable to be expanded by high temperature must be provided with sufficient lateral and also a slight radial shake in order to meet the expansion of the shaft.

Drawing the conclusion from the foregoing explanations and experiences, the selection, mounting and

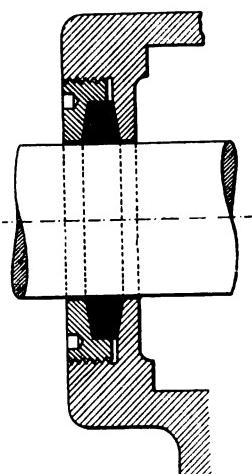


Fig. 17

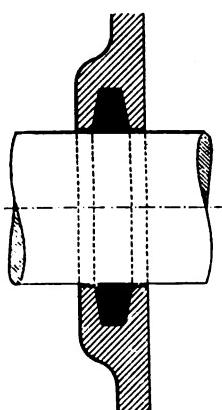


Fig. 18

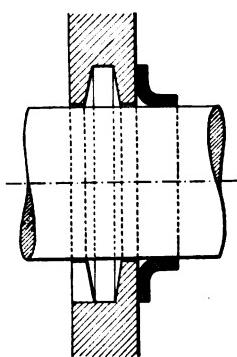


Fig. 19

lubrication of ball or roller bearings in automobiles or the like, need close attention in order to secure the proper operation of the gears and all other rotating parts. When there are signs of trouble, it is advisable to inspect the bearings to find out if they are properly mounted and lubricated. If the cause of the trouble cannot be detected it will be well to consult the ball or roller bearing maker, as in some cases it needs all the experience of an expert in this line to detect the *real* cause of the trouble. A correction in time will prevent any serious damage.

### An Almost Perfect Paint

**I**F an absolutely perfect paint were possible, there would be no wear-out and no need of repainting.

Perhaps the nearest approach to a perfect protective coating, outside of some special high-priced coating, is Dixon's Silica-Graphite Paint.

The pigment is certainly an ideal one, being silica-graphite, both minerals being mined from the same mine, and when viewed under the microscope the silica

is seen to be of flake formation, the same as the graphite, and the flakes of silica are firmly attached to the flakes of graphite.

This silica-graphite, when ground to a fine condition, is still seen to be of flake formation. No matter how finely ground, the flake formation can still be seen under the microscope.

This finely divided silica-graphite is in turn carefully ground and ground for a long time with the very best boiled linseed oil, after which it is thinned to the proper consistency, and so evenly divided is the pigment and so rich the linseed oil, to which no other vehicle is added, that the ready mixed paint will stand for a very long time without settling. In time of course it will settle and, therefore, should always be thoroughly stirred before being applied.

The silica is to the graphite what the copper alloy is to the gold in a gold chain. No gold chain twenty-four carats fine would resist ordinary wear—neither will an all-graphite paint prove durable. For protecting metal surfaces, and for a long service paint, silica-graphite cannot be too highly recommended. The pigment, practically speaking, is not affected by acids or alkalies and the paint, therefore, is well adapted for many uses where no other form of paint could long stand the trying conditions.

### Something In This

**I**N figuring out how to overcome expense of frequent repainting, and how to overcome the wear and tear of snow and sleet and driving dust, chief engineers and maintenance of way engineers of railroads, after careful investigations and long experience, decided that the most economical paint to use, regardless of its price, and the paint giving the longest term of protection, is Dixon's Silica-Graphite Paint.

The cost of labor in painting and repainting is always greater than the cost of the paint itself. The long life of Dixon's Silica-Graphite Paint makes unnecessary frequent repainting, and therein lies its economy.

The same engineers and superintendents of motive power, however, learned by experience that there is a great difference in graphite paints—a pure graphite paint has an inviting sound, but a pure graphite paint, like a pure gold chain, has no lasting or wearing qualities.

It is the silica in Dixon's Silica-Graphite Paint that insures wear and durability. The silica supplies to the graphite what the copper does to the gold—endurance.

Furthermore, the silica in Dixon's Silica-Graphite Paint is not added in a mechanical fashion. The silica is of flake formation, the same as the graphite, and both are mined together at the Ticonderoga mines of the Dixon Company. Viewed under the microscope, many of the flakes of silica will be found firmly attached to the flakes of graphite.

Dixon's Silica-Graphite Paint is the "Longest Service" Paint and it is therefore the most economical when you divide the many years of service into the first cost. It is made in four colors and one quality only—the best.

## Dixonites Who Pencilize the Country

*This is the fifth of a series of articles featuring  
Dixon Pencil salesmen*

**M**R. I. L. LEVISON was born in the Capitol City of the Empire State just two score and eight years ago. Like other men who look a little younger than they really are, Mr. Levison easily forgives any publicity given to such facts and figures concerning his origin.

As a boy, Mr. Levison's favorite sport was ice-skating. He could still cut a fancy figure upon congealed

water were the opportunity afforded, but except on rare occasions, his more serious activities forbid indulgence in this now popular pastime. In other words, he's a good skate. (To compositor: Do not add the "r," the omission is intentional.)

Mr. Levison gave his head, heart and hand to his work for the Dixon Company seventeen years ago. In mu-

tual appreciation this record is eloquence itself. Mr. Levison sells Dixon pencils to suit his customers' requirements, but the pencil he likes particularly to sell is Eldorado, "the master drawing pencil." "This pencil," says Mr. Levison, "gives universal satisfaction to the jobber, dealer and individual consumer."

One of the unwritten rules of the road is that a salesman, no matter how sick, sad or sorrowful he may be, should greet his customer with a smile; and no matter what time of the day it may be, the salesman's greeting should be a "Good morning." It is characteristic of Mr. Levison that he pays strict observance to this custom.

Mr. Levison devotes his leisure hours to—talking lead pencils. A short time ago, during one of his trips to Ogdensburg, N. Y., he was informed by one of his customers that Mr. —, Superintendent of the State Hospital (Insane Asylum), wished to place a large order for pencil leads. Levison lost no time in getting to that institution. After a long wait, he was ushered into the presence of the Superintendent and immediately got down to business. Samples of various pencils containing heavy leads were submitted and prices quoted. Finally the Superintendent decided upon a Dixon's No. 308 lead and ordered five hundred (500) gross, which made Levison feel faint from wonder. What could a "nut factory" want with five hundred (500) gross of leads? Curiosity got the better of him and he asked the Superintendent what the leads were to be used for. "Mister man," replied the Superin-

tendent, "when the leads I just ordered arrive here, we are going to feed them to our patients to make them w-rite!"

The Superintendent must, of course, have been a good friend to the customer and the joke was on Levison.

"Some day," says Mr. Levison, "I am going to write a book of pencil jokes. And there will be lots of good points to write about, for it is going to be a Dixon book."

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DIXON DIALOGUES

**W**HAT is this?"

"It's D. H. Heilman, editor of the *Popular Engineer*, the official journal of the American Society of Steam Engineers."

"What telephone number is that he is calling for?"

"It isn't a telephone number. He just wants a supply of Dixon's No. 400 pencils."

"Why is he so agitated?"

"Because his supply of these pencils is exhausted and he is in urgent need of more for some sketch work promised."

"Can't he use any pencil?"

"No, it must be Dixon's No. 400 or possibly Eldorado, 'the master drawing pencil.' It must, at any rate, be a Dixon because Mr. Heilman is an artist with discriminating taste."

"What proof have you of this?"

"The sketch which heads this text was done by Mr. Heilman."

"How long did it take him to make the sketch?"

"Sixteen seconds."

"Isn't that rather rapid work?"

"Not with a Dixon."

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"It is the 'everydays' that count. You must make them tell, or the years have failed."—William C. Gannett.

"CIRCUMSTANCES, however difficult, are always without exception opportunities and not limitations."—Annie Payson Call.

## Are We All Prepared?

**PRINTERS' INK** calls our attention to the need for business "preparedness." It tells us that these are the days when one cannot pick up his paper without having his attention called to the subject of "preparedness."

This is quite true. These are the days when the American manufacturer should equip his factory so as to be properly prepared to take care of not only the domestic but the large export business which will come to the United States after the war is ended, provided the American manufacturer is prepared to handle it.

The American manufacturer must not only have the capacity to turn out the goods, but he must be equipped so as to reduce his cost of production, and he must see that all of the influence that he can bring to bear upon his congressmen and senators must be used in order to have proper tariff adjustments.

He must also be prepared in the way of known prices of goods similar to those made by himself that are current in the countries to which he desires to send his goods.

Mr. Robert Grimshaw, Ph.D., who undoubtedly is known to quite a number of the readers of GRAPHITE, and who often has been a very welcome visitor at the Dixon office, in an address delivered before the American Supply and Machinery Manufacturers' Association, declares that America's only salvation is in cost reduction.

Mr. Grimshaw has studied conditions in Germany, France and Austria—he has studied prosperity and wages—he has made a study of tariffs and transportation and may be considered an authority on these matters.

Mr. Grimshaw called attention to the book published by Secretary Redfield, *The New Era*, in which Mr. Redfield proves that the higher wages we get the more prosperous the country is. Mr. Grimshaw cannot agree with Mr. Redfield, because the statements made by Mr. Redfield are contrary to Mr. Grimshaw's own experience.

To Mr. Grimshaw's eyes it looks something like this in America:

"The average shoemaker wishes to make five dollars a day for the present, and six in the future, and wants to buy a suit of clothes for ten dollars. The average tailor wishes to make five dollars a day now, with six in view, and wants to buy a pair of shoes for two dollars. Both the tailor and the shoemaker want cheap rent; but how are they going to reconcile that with the fact that the mason and the carpenter who build the houses in which they live want to make from five to six dollars a day, with more in the future?

"The labor agitators are engaged in the problem of

catching themselves by the boot straps and lifting themselves on to a pinnacle of prosperity. The laborers are endeavoring to do as a witty Frenchwoman said most men were trying to do, imitate a jar of snakes, in which each one was trying to get its head above the rest. That is the problem our workmen have set themselves, and the manufacturers are the ones who are going to get left for the present. Eventually the workmen will get left too."

Mr. Grimshaw pays a very high compliment to German efficiency and the way things are done in Germany. He shipped from the city of Dresden to Hoboken some pieces of baggage which cost him twenty-five marks. Those same pieces by express from Hoboken to South Orange, New Jersey, cost twenty-four marks.

In the matter of tariff, Mr. Grimshaw tells how carefully the Germans consider the tariff question. When

they want to fix a tariff, they set a lot of engineers and merchants at work to determine what the rate should be, and divide things up about like this: "If it is machinery which produces articles that are to be sold it comes in very cheaply. Machine tools come in on a very low rate of duty, because they produce materials which can be sold both outside of Germany and in Germany. But non-productive articles, for example canned goods, anything like that,

have to pay a high duty. See the difference in wisdom between the way they determine their tariff and the way we fix ours. Taking the three-pound can of tomatoes bought in New York for nine cents, in Germany this American-produced can of tomatoes pays a duty of eighteen or nineteen cents, so that the duty is more than the can of tomatoes cost in New York. But anything that makes something comes in practically free."

In his speech Mr. Grimshaw covered many interesting matters, and those who have not had the opportunity of reading the speech should endeavor to obtain a copy.

## Improve Your Mind

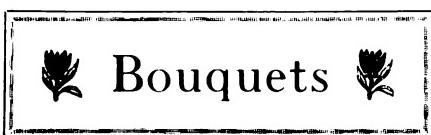
LIFE, says *The Silent Partner*, is a battle of brains, and man's mind needs encouragement.

You should read bolstering books, inspiring, optimistic, uplifting magazines. You should support your mind as you would sustain your body.

Your mind is the key to the situation; the combination that will unlock your success.

You can make yourself what you will, for man is made and unmade by his mind. You can ascend to high achievements mentally, materially and morally; or you can sink out of sight and be a slave.

You are where you are by the influence of your own mind. Any time you feel satisfied with your situation, you are drifting backward.



"DECEMBER GRAPHITE is like its predecessors, interesting as well as instructive."—*John B. Large, 19 Park St., Ashtabula, Ohio.*

"KEEP on sending GRAPHITE, I read and enjoy it."—*W. J. Tubbs, Secretary, A. C. L. Railroad Y. M. C. A., Waycross, Ga.*

"WILL you please send me GRAPHITE for one year to the address given below, enclosing bill for same?"—*R. W. Dow, River Street, Houlton, Me.*

"I WILL appreciate very much the continuance of GRAPHITE for the year 1916. I receive from it many helpful hints."—*H. S. Gray, Clayton, Del.*

"I ALWAYS enjoy reading GRAPHITE and would appreciate a copy of 'Useful Spanish Words and Phrases.' If I ever get where a copy of GRAPHITE is not available, I am going to beg for a place on your mailing list."—*Wm. R. Sprague, P. O. Box 123, Fort Monroe, Va.*

"I HAVE used Dixon's Graphite for the past ten years and read GRAPHITE for the past six years and would not care to do without either of them."—*G. S. Woodrow, Station 2, American Ice Co., 23d and Hampden Ave., Baltimore, Md.*

"WE have been pushing Dixon (and other) pencils for 20 or 30 years; wonder if I have earned a subscription to GRAPHITE."—*T. V. Orr, Pres. Intersouth Advertising Agency, Memphis, Tenn.*

"RECENTLY several copies of GRAPHITE have found their way to my desk and I have learned to look for it; therefore, in order that I may not miss a copy, and if in order, will you please add my name to your mailing list?"—*A. B. Kerr, Apprentice Instructor, St. L. & S. F. Ry., Springfield, Mo.*

### The Girl on the Cover

**W**E have no title for this picture other than "Simplicity," and that is suggested by the artist's own name. W. A. Sims was a painter and an exhibitor in various European galleries, including the English Royal Academy, some half dozen years ago. He was a pupil of Legros, the famous painter-etcher, sometimes spoken of as the last great pencil draughtsman.

"Simplicity," or by whatever other name our readers may select, is pure point work produced with Dixon's Drawing Pencils. The rich black strokes with which the hair is drawn illustrate the depth and intensity of a 6B grade of lead such as used in Dixon's Eldorado, "the master drawing pencil."

Mr. Sims contributed this sketch to GRAPHITE in appreciation of his experience with Dixon's Pencils and, as he writes, "as a mark of my recognition of your courtesy." Whimsically he adds: "All my life long I have been hoping that some day I shall find a pencil that will produce great works of art of itself." Apparently Dixon Pencils come nearest to this ideal of Mr. Sims, and what more can be said of pencils?

### Preparedness

**A preparedness for 1916, not in a military way, that makes for economy and comfort**

**T**HE popular topic of the day seems to be "preparedness," meaning of course in a military way. We believe, however, that it is time to give serious thought to the necessity of preparedness along lines that are not military, but lines that make for economy and comfort.

Mr. George W. Perkins, an economist of acknowledged standing, says that we are no more prepared for peace than we are for war. German efficiency, while very apparent along military lines, has nevertheless been quite as thorough along commercial and other lines.

The man who has charge of iron construction work, whether it consists of an ordinary fire-escape or a massive bridge or an iron fence,

should prepare for the wear and tear of storms and the corroding influences that tend to destroy all iron and steel work. Sometime ago we received a letter in which occurred the following expression: "It is now too late, and sincerely regret that I did not adopt your suggestion several months ago." At the time mentioned, we were asked the price of Dixon's Silica-Graphite Paint and other details. We wrote the party that his ironwork should be thoroughly cleaned and freed from all rust and dirt and then carefully painted with two good coats of Dixon's Silica-Graphite Paint. The price of Dixon's Paint seemed high—the man was not willing to put on what he knew to be a cheap and inferior paint, and so he thought he would wait. He did wait, only to find that the corroding influences had so far eaten into the metal work that many replacements in his iron structure would be necessary.

Proper lubrication of all machinery and all moving parts is equally necessary if the machines are to be kept from the scrap heap until better types are to supplant them. Friction is just as necessary as perfect lubrication, for without friction we would be unable to walk, and again without proper lubrication of our various joints we would be equally unable to walk. Therefore, keep friction in its proper place, and on all moving parts of machinery make use of Dixon's Graphite Lubricants and 1916 will be a happier year for you—at least in one respect.

### He Didn't Wear a Coat of Dixon's Paint

**N**OW, Willie, can you tell us anything about the iron age?" "Er—er—I'm a bit rusty on the subject, teacher."

### Agile Parent

**PAPA, what is an escutcheon?" "Why?"**

"This story says there was a blot on his escutcheon."

"Oh, yes! An escutcheon is a light-colored vest. He had probably been carrying a fountain pen."

—*Houston Post.*

## Fixed?

## A PLAYLET IN THREE ACTS

TIME: The Present SCENE: Up-to-date Garage

## CHARACTERS

Salesman—A Dixon Representative

Garage Proprietor—Owner of the Up-to-date Garage

Customer—One Who Knows

Bill—Another One who Knows

## ACT ONE

Salesman (*concluding talk with Garage Proprietor*): "I have demonstrated the value of flake graphite as a lubricant. I have shown its particular value when mixed with the best mineral oils and sold as Dixon's Graphite Grease No. 677 for transmissions and differentials. I have told you that Dixon's Graphite Automobile Lubricants are used by all prominent racing drivers and that this fact alone is of tremendous influence with the average car owner who realizes that an ordinary transmission grease would boil and quickly lose its integrality at one hundred miles an hour. I have shown you the photo-testimonial window display cards of these prominent racing drivers with which we are prepared to help you drive home this really valuable fact. I have shown you the metallic outside wall signs, the weather-proof road signs, the booklets, folders, catalogs, pasters, posters and other advertising matter that we furnish to help along sales. I have told you of our newspaper campaign and—"

Garage Proprietor: "That's all right and it sounds good, but let me tell you that without a demand for your goods its—" (*pauses to catch the eye of customer just entering*).

## ACT TWO

Customer: "Good morning. I want a ten pound can of Dixon's Graphite Grease No. 677."

Garage Proprietor (*glancing quickly from salesman to customer and growing suspiciously indignant by the moment*): "Well, of all th' frame-ups I was ever up against, this looks about th' thinnest."

Customer (*also indignant*): "I don't quite get the meaning of your words. The insinuation is—"

Salesman (*as a succession of emotions flit across his face*): "Look here, gentlemen, this is merely a coincidence. Permit me (*handing card to customer*) to introduce myself as a Dixon representative. I was just about to convince the owner of this garage that he could not afford to be without a stock of Dixon's Graphite Automobile Lubricants. Your timely appearance will help me to enroll him in the Dixon Fraternity."

(*Proprietor makes peculiar motion to assistant standing near by.*)

Customer (*who grasps situation at once*): "Well, if I cannot get Dixon's here I guess I am the loser. Before I go, however, I want to work another little plant upon our mutual friend. (*Walks to entrance and calls to other occupant of big touring car.*) Hey, Bill, what's the best grease made for transmissions?"

Bill: "Dixon's 677, of course."

(*All three smile a smile of mutual appreciation.*)

Garage Proprietor: "Well, boys, I'll admit that I was from Missouri and if you fellows are not pulling off the genuine stuff, you're losing good money every minute you're away from the foot-lights. But a word to the wise is sufficient and (*as he sights returning assistant*) I am very happy to be in a position to meet the needs of my customers (*receives ten pound can of Dixon's Graphite Grease No. 677 from breathless assistant and hands it to customer*) for Dixon's Graphite Automobile Lubricants. Now, young man (*turning to Dixon salesman*), where is that order book of yours?"

## ACT THREE

*Editor of GRAPHITE:*

Here's a little contribution that may interest your readers. The incident related happens to be a true one and you may say that names and addresses will be furnished upon request. I get a cigar now every time I go near that place.

With best wishes,

A SALESMAN.

### Reducing Expenses by Not Repairing Proves a Great Mistake

THE editor of a well-known industrial paper relates to GRAPHITE the following:

A large mill (one of a system) had for a long time been paying extra good profits. The owners were greatly pleased with the efficiency of the superintendent of that mill, until they came to carefully look into the matter with a view of determining where the extra profits had arisen. They had come to the conclusion that if this mill could pay such good profits, the system by which it was done should be introduced into the other mills. However, careful and thorough examination showed that the superintendent who had made his mill so profitable had done so only by neglecting repairs, to the extent that when the examination was made the managing officers found that it would be necessary to spend some \$40,000 to bring the mill up to where it should be.

The president of the corporation called in a young superintendent from one of the smaller mills, and said to him that he might expect to be transferred to the larger mill in question. The young man demurred on the ground that he had been through that mill carefully and knew that many repairs were absolutely necessary and some changes very desirable. He, therefore, did not believe that he should be transferred there unless the management was willing to spend some money.

The president of the corporation at once advised the young man that this was just the reason he was being transferred to that mill; they wanted some one who would not let their properties run down, some one who understood that reducing expenses by not repairing was a great mistake. The young man was transferred.

## In the Good Old Days

**M**R. RAYMOND B. FOSDICK in *Hardware Age* tells us about "The Good Old Days." His remarks are especially interesting but too long for our columns.

In speaking of Suffrage he says that our fathers in the good old days of the Constitution had no idea of conferring upon all citizens the right to vote. It was not for the mass of the people to vote. The vote was a privilege to be exercised by "the wealthy and well-born," as Alexander Hamilton expressed it.

In the State of New York in these good old days a citizen had to possess an estate worth £50 sterling before he could vote for a governor, and he had to own a £20 estate or pay a rent of 40s. a year before he could vote for an assemblyman.

In New Jersey the qualification for suffrage in the days of the Constitution was real estate to the value of £50. No citizen of Massachusetts could be a governor if he did not own £1000 worth of real estate, nor a senator unless he owned £300 worth.

Religious restrictions were almost universal in this country. These were "the good old days."

Of political methods the less said the better, but Mr. Fosdick tells us a whole lot that is very interesting.

Ninety years ago there was in New York City but one public school, maintained not by taxes but by public subscription. Water was supplied chiefly by the Manhattan Company, by means of bored wooden logs laid underground from the reservoir in Chambers Street. No fire department was dreamed of, and every blaze had the city at its mercy. The streets were unclean. Only two or three thoroughfares were fit for the passage of carriages. In reading over the history of ninety years ago as outlined by Mr. Fosdick, the least that we say about Mexico the better.

Even as early as 1832 votes for President Jackson were openly solicited at five dollars each. In 1838 two hundred roughs were brought by the Whigs from Philadelphia to steer the repeaters at the polls. Still later convicts were allowed to escape from Blackwell's Island on condition that they voted as their keepers ordered.

The present days are really the good old days. Mr. Fosdick tells us we have cut down the number of crimes punishable with death from fifteen to one. We have abolished imprisonment for debt. We have exterminated slavery. We have improved conditions among working men. We have covered our country with schools and libraries and institutions of civic and social betterment. We have committed our Government more and more into the hands of the governed. We have developed a popular sensitiveness to social evils and injustice. We are steadily raising the standard of public service and drawing the line more sharply and distinctly between right and wrong in public life. We are beginning to see what our fathers never dreamed: that the sole cure for the evils of Democracy is more Democracy. And so when the pessimist rises in his place to croak "Back to Democracy!" the answer to him would be that Democracy does not lie behind, it

lies ahead; and that while there are evils enough at the present day, they do not begin to compare in danger or extent with those out of which we have come.

In times of stress like these we need to believe in ourselves and in our capacity for growth as a people. History is the sure cure for pessimism.

Let us all look upon the coming of 1916 and subsequent years with greater hope and trust in our country and in ourselves.

## Foreign Business

**A**T the Sixth Annual Convention of The American Manufacturers' Export Association, Mr. Isaac N. Seligman of the well-known banking house of J. & W. Seligman & Company spoke at the banquet on "Banking in Relation to Foreign Trade." According to the report printed in *Hardware Age* the address was very practical and enlightening, due to a ripe banking experience of many years. Mr. Seligman said, among other things, that a great deal had been talked and written during the past eighteen months about the opportunities offered to us for trade expansion. "These opportunities," said Mr. Seligman, "exist not only because of the countries hitherto supplied by Europe being now compelled to buy American goods, but also because we are more and more becoming a manufacturing country, and are gradually adapting ourselves to the necessities of export trade. This is fortunate, for unless we equip ourselves at home as well as or even better than the older export nations were equipped before they hazarded the results of the labor of centuries by entering upon the most terrible war of history, we could never hope to hold after the war the newly gained ground against the efforts of European competitors to retrieve what they have previously held."

It is very evident from Mr. Seligman's remarks that he believes American exporters, or American manufacturers rather, have but a faint idea of just what "abroad" means. He called the attention of the members to the fact that in our own hemisphere alone there are twenty republics outside of our own, all as different from one another in respect of customs, laws, currency, etc., as are France and Germany, except that they have Spanish as their common language, apart from Brazil and parts of the West Indies, where Portuguese and French are spoken. Yet how often do advocates of the expansion of our trade refer to these countries collectively as "down in South America." Without doubt Mr. Seligman is absolutely correct. There is a whole lot for the American manufacturer to learn before he can hope to be a successful competitor against the commercial organizations of other countries.



"Now that is the wisdom of a man, in every instance of his labor, to hitch his wagon to a star, and see his chore done by the gods themselves."—*Emerson*.

"NEVER shrink from anything which your business calls you to do. The man who is above his business may one day find his business above him."—*Drew*.



# CABINET PENCILS

please the most varied tastes of office workers and users of pencils for general writing purposes. The widespread use of DIXON'S CABINET in the larger business offices indicates the sturdy character of these pencils.



DIXON'S CABINET Pencils are made in round and hexagon shapes, stamped in gold, with No. 1, 2, 3 and 4 leads of high grade, gilt tips and soft red erasive rubbers. Finished in black, ebony, satin, cedar, maroon, tortoise, and white.

**"A Quality Pencil at Medium Price"**

*Obtainable from Most Stationers*

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Nº 3

# Graphite

MARCH 1916

Buffalo Telephone Company's Building  
Steel Super-structure protected by Dixon's Silica-Graphite Paint

# DIXON

and "dependability" have meant the same to foundrymen since 1827. If you're not a Dixonite—a user of Dixon's Graphite Crucibles—then it's time to get acquainted.

As a starter write for our 40-page booklet on "The Care and Use of Crucibles,"

No. 190-A.

**Joseph Dixon Crucible Co.**

Jersey City, New Jersey

Established 1827



## JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED  
1827

Jersey City, N. J., U. S. A.

INCORPORATED  
1868



*Miners, Importers and Manufacturers  
of Graphite, Plumbago, Black Lead*



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FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS  
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A. R. MacDougall & Co., Ltd., 266-8 King St., West,  
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## Graphitized Comments

### A Few Paragraphs of General Interest

OUR compli-  
ments to our  
contempo-

rary, the *Lightning Line*, published in Cincinnati, Ohio, by J. A. Fay & Eagan Company, which embellished its January issue with a pencil drawing and therefore secured a most wintry of winter scenes. We hope it happened with an Eldorado, "the master drawing pencil."

OPERATE a Marion? Then ask us for our Marion lubricating chart.

RIDE in a Reo? Then we want to send you our Reo lubricating chart.

RUN a Ford? Then write for our Ford lubricating chart, free of course.

"DIXON'S White Lumber Crayon No. 523 is exactly what we wanted, and we wish to place an order with you for one gross, for prompt shipment by express." (From the recently written letter of a prominent Southern lumber concern.) Dixon's White Lumber Crayon No. 523 offers the most durable service and gives unqualified satisfaction for marking both lumber and metal and is specially used for marking freight cars. It is paper covered, medium soft, hexagon shape, four and one half inches long and one half inch in diameter.

IT is not what we eat, but what we absorb, that feeds us. It is not the amount of lubricant that you pour into the machine, but the amount that the bearings absorb or hold, that lubricates. It is because the thin flakes of graphite are held or absorbed by the microscopical irregularities of the bearing surfaces that graphite lubrication is so superior to oil or grease alone. The veneer-like coating of graphite is of wonderful smoothness and endurance and prevents a metal to metal contact.

DO you crank a Krit? Shall we send you a copy of our Krit lubricating chart?

DO you know that to carry your pencil about without a Dixon Cartridge Point Protector is, first, to ruin your coat or pocket linings; second, puncture your anatomy; third, break the point of your pencil, and fourth, necessitate the purchase of a new writing implement? Muzzle the point. It is simple and inexpensive if you do it with a Dixon Cartridge Point Protector, nickel plated or gold finished, as you like. Ask any stationer that is on the job. Or send us his name and address and we will send you a protector free of cost.

WITH an order for several Dixon

Graphite Automobile Lubricants, came the following from Morrison Fetzer, St. John, Cal.: "Your pamphlet on Dixon's Motor Graphite, etc., was like meeting an old friend. I have used Dixon graphites and greases in steam engines and air compressors and know what they do. Therefore I am delighted to hear that Dixon's Motor Graphite will do the same thing for all automobiles."

DO you pilot a Mercer? Then send us a request for our Mercer lubricating chart.

IN the Astor Cup Race, out of twenty-three entries there were thirteen different makes of cars. But in practically all these cars the same lubricant was used, Dixon's Graphite Grease for transmissions and differentials. This has been the case in all the big automobile races during the last two years, and it's getting to be regarded as a matter of course. The most remarkable fact, however, is that the cars that finished one, two, three, in the Astor Cup Race, were "tuned up" with "Dixon's." The regularity of Dixon triumphs will soon cause it to be regarded as a foregone conclusion that Dixon's Graphite Grease was the lubricant used in the winning cars.

## Our "Hello" Cover

**T**HE Buffalo Building of the New York Telephone Company upon our cover page is the architectural work of Messrs. McKenzie, Voorhees & Gmelin, New York City.

It is not only one of the show places of Buffalo, but is, so to speak, "the voice of the city." The white exterior of this building encloses a 700 ton steel superstructure fabricated by the American Bridge Company and erected by Mr. J. A. Fitzpatrick, engineer, of New York City. Mr. George C. Rossell, of Rochester, N. Y., was the general contractor.

Dixon's Silica-Graphite Paint protects the steel work contained in this structure as well as in other prominent buildings in practically every big city in the country.

If you would like a list of these buildings, please write for Booklet No. 190-B.

## Who Comes Here?



I AM more powerful than the combined armies of the world.

I have destroyed more men than all the wars of the world.

I am more deadly than bullets, and I have wrecked more homes than the mightiest of siege guns.

I steal, in the United States alone, over \$300,000,000 each year.

I spare no one, and I find my victims among the rich and poor alike; the young and old; the strong and weak; widows and orphans know me.

I loom up to such proportions that I cast my shadow over every field of labor, from the turning of the grindstone to the moving of every railroad train.

I massacre thousands upon thousands of wage-earners in a year.

I lurk in unseen places, and do most of my work silently. You are warned against me, but you heed not.

I am relentless. I am everywhere:

in the home, on the streets, in the factory, at railroad crossings, and on the sea.

I bring sickness, degradation and death, and yet few seek to avoid me.

I destroy, crush, maim, take all and give nothing.

I am your worst enemy.

## I AM CARELESSNESS

### Jessie Allen Fowler

**M**ISS JESSIE ALLEN FOWLER, for many years connected with the Fowler & Wells Company, New York, has now opened an office for herself and has taken with her the American Institute of Phrenology. She is located at 1358 Broadway, New York City, in what is known as the Sheridan Building, corner 36th Street and Broadway.

Miss Fowler is the accomplished and expert phrenologist who some years ago gave such interesting readings of the managers of the Dixon Company and of its salesmen. The readings of the characters and personalities of the salesmen were so accurate and true that they were readily recognized and commented on by the buyers visited by the Dixon salesmen.

A phrenological reading by an expert of applicants for positions may not be entirely free from errors, but nevertheless is certainly of value to the employer.

### John A. Hill

**M**R. JOHN A. HILL, head of the publishing company bearing his name, died Monday, January 24th, while on his way to New York in his automobile.

Mr. Hill was one of the many who have worked both hard and persistently from the bottom to the top, but not by unfairly pushing and crowding, for he was always considerate of the rights of others and always ready to help.

His death at the early age of 58 will be generally mourned, but to those who have known him for these many years there will come feelings and thoughts that can only come to those who have been most pleasantly associated.

## A Moving Picture

**T**HIS is how a certain hardware dealer told us about his sales of Dixon's Belt Dressing:



A very satisfactory report, don't you think? Are you a user of this quick, convenient cure for slipping belts?



### It Writes White, Says Bonnie Snow

**M**ISS BONNIE E. SNOW, sometimes called the dean of women drawing teachers, has contributed to GRAPHITE her appreciation of Dixon's Best White No. 352. Says this very well known art lecturer: "I like your new white pencil very much indeed. It is what I have been looking for, and, pending its appearance, I have been obliged to substitute common white chalk. This has rubbed, of course, and has been far from satisfactory. Your new crayon fills the bill. I have to-day used it on black, gray, and colored papers, and it is dandy."

# The Use of Graphite in the Lubrication of Cylinders

By Frederic W. Carter, in *Power*

*Chief Engineer, Wright Wire Co., Palmer, Mass.*

THERE seems to be little information available except in a general way regarding graphite lubrication of cylinders. It is generally conceded that graphite is the proper

thing for engine cylinders, but no concise or reliable data, especially as to cost of graphite lubrication as compared to lubrication without graphite, are to be had.

In the plant of which I have charge we have an excellent cost system and I know each month what the costs are for every item of power production. Consequently the minimizing of costs consistent with good continuous service is practised.

The lubrication of the cylinders of our  $22 \times 40 \times 48$ -in. 72 r.p.m. George H. Corliss engine was one of the matters receiving close attention. After experiments as to the least amount of oil that could be fed and not cause cutting or scoring of the cylinder, the consumption was brought down to where only a slight stain was obtained with a piece of white paper pressed against the walls of the cylinder. At this point the cost with a grade of cylinder oil at 48c. per gal. was \$6.07 for a week of 120 running hours.

I determined now to try graphite in the cylinders, and immediately set about to find out who was using it and what results were being obtained, but could learn little about it. I found that while graphite had been tried in some cases, it was abandoned because of the inability of the feeding device to get it successfully to the cylinder walls and valves.

After consideration of the different types of graphite feeders, I found one made by an engineer and used in his plant, and installed it. With graphite lubrication the graphite is depended upon wholly as the lubricating agent, the oil being used merely as a carrier to convey the graphite. Consequently a cheap grade of cylinder oil can be used, it being necessary only to select a grade having a sufficiently high flash point to stand the temperature of the steam.

A grade of oil costing 32c. per gal. was selected. The graphite was started with the same amount of oil per hour, but was gradually cut down as each weekly inspection would allow, until at present we are using 27 qts. of cylinder oil per week of 120 hrs., as compared to 50½ qts. without graphite.

\* Mr. Carter uses Dixon's Flake Graphite No. 635. Since the above article was written the price of graphite has been revised, but even at the present cost the saving is \$3.20 per week, or 52½%.

A number of very good devices are on the market that feed dry flake graphite or graphite mixed with oil, and all of them are guaranteed to effect a saving of at least 50% in the oil supply. The names of manufacturers of these special lubricators will be furnished to anyone interested in better and cheaper lubrication.

In addition we are using 2 lbs. of graphite per week of 120 hrs., costing 20c. per lb. The cost then is  $(27 \times 0.08) + (2 \times 0.20) = \$2.56$  to lubricate both cylinders for a week.

Without graphite the cost was  $50.5 \times 0.12 = \$6.06$ . To compare then we have: Cost without graphite, \$6.06; cost with graphite, \$2.56; saving, \$3.50. This represents a saving of 57½ per cent. in the cost of lubricating the cylinders of this engine.

With this type of feed it is necessary to install one feeder on each line from the force-feed lubricator; in this case four were necessary, two to each cylinder. The total cost was \$125.00, and allowing 6 per cent. as interest on this, the cost is \$132.50. As the saving is \$3.50 per week, it will take 39 weeks, or nine months, to pay for the feeders. So the investment pays well. This feeder has no mechanical moving parts and no repair charges can be made against it.

The graphite has been fed to the cylinders for three months and has given satisfaction. No trouble has been experienced with the lubrication or in properly getting the graphite to the valves and cylinders. The Saturday previous to this writing the cylinders were opened and found in excellent condition—as we sometimes say, "just like a looking glass."

I have been unable to make any tests for results as to friction, but there is this condition as an indicator: We have had no trouble with the dashpots sticking with graphite, whereas with cylinder oil alone we frequently made adjustments to prevent them from sticking.

## That Which Gives Real Value

ALL productions must bear a price in proportion to the skill, time, expense and risk attending their manufacture.

In other words, it is the skill, the time, the expense and the risk attending the manufacture of an article that give it its real value.

Therefore, many things called dear are, when justly estimated, the cheapest and in every way the most economical.

The disposition that many buyers have for cheapness, and not for excellence, is the most frequent and certain cause for the cheap and poorly made articles now found in our markets.

Almost any old-time dealer in household or other goods will tell you how inferior many of the goods now offered for sale are to similar goods made forty to fifty years ago.

## Saved!

By C. C. &amp; G.



pail, and a quantity of "elephant" colored material. His actions, though industrious, bordered upon the furtive, but in some way he managed to escape the attention of the foreman.

"WE need that other ladle, Tom," said the foreman, two weeks later. "Wish now that I had told you to fix it up, though we didn't have any fixin' material. S'pose now we'll have to wait a week or two—whatcha smilin' about?"

"We don't need to wait," remarked Tom.

"How so?" was the demand.

"It's all fixed," smiled Tom, and he led the way to a dark corner a few feet away, pulled out into the light what appeared to the astonished gaze of the foreman to be a brand-new ladle, and awaited the result of the latter's inspection.

"Wh-at," exclaimed the foreman, "is this the same ladle I told you to put aside?"

"Sure," said Tom.

"What have you done with it?"

"Just made a new lining over the surface of the old worn and cracked one. With my trusty trowel and this (dragging forth a pail) I did the trick."

"What is that?" asked the foreman, pointing to the pail.

"That," said Tom, "is Dixon's C. C. & G. It stands for Crucible Clay and Graphite Mixture."

"How d'y'e use it?" asked the foreman.

"Here," said Tom, as he pulled a folder from his pocket, "listen to this: It is only necessary to mix C. C. & G. into a paste with water, and if especially rapid drying is desired, add  $\frac{1}{10}$  part of molasses or silicate of soda to water. A handful of salt added to every pail of water used has also been found highly satisfactory. Remember that to obtain the best results this mixture must soak a week or two, and the longer the mixture is soaked before use the better the results will be. It is an excellent plan to keep a quantity in

soak at all times and to add driers when material is needed."

"It sounds good," commented the foreman. "Where did you get it?"

"I wrote for folder No. 190-A to the Joseph Dixon Crucible Company, Jersey City, N. J.," said Tom. "An' I borrowed C. C. & G. from a friend of mine. The company owes me—"

"That's all right," interrupted the foreman; "the company not only owes you for C. C. & G., but also a better job. Hereafter, Tom, you're assistant foreman, and I will speak to the boss about it right away."

## Some Salesman

A MAN wearing a sunburnt suit, with a face full of whiskers and his arms full of calendars, was stopped at the door of a banker in Wall Street, by the guard stationed there, who asked him his business. The bearded one regarded the question as leading and exceedingly silly, and made so much noise that the banker's secretary went out and later reported to the banker that a man was anxious that the banker should buy a church calendar.

"Oh, let him in," said the banker, pleasantly. The man entered, took a tattered derby from his ears and rattled off in his native tongue all his reasons why the banker should part with a dollar for a church calendar.

"Here is the dollar, my man," said the banker, "and you may keep the calendar."

One hour later the bell of the banker's home was pulled vigorously. The butler put down his knitting and responded. A man wearing a sunburnt suit told him that he had been sent up from the banker's office to see the banker's wife regarding a church calendar and that the banker expressly asked that he explain in person the method of reading the calendar.

There was considerable argument, but finally the banker's wife saw the man, heard all about the calendar, declined to receive it, but gave a dollar to him.

As the man with the calendars was leaving the house an automobile in which was the banker drove up. The banker saw the man, vaguely recalled him, and asked his wife who he was.

"That's the man you sent here with a calendar," explained the banker's wife. "I didn't take the calendar, but I gave him a dollar."

"Well, I declare," said the banker, and summoned the butler. "Slip on your coat and ask that man to come back here. Hurry!" The butler did.

The man in the sunburnt suit explained that it was impossible for him to go back. He was in the greatest of hurries. He knew, however, what the banker wanted him for and he would give it to the butler. It was a church calendar, and if the butler by any chance had a dollar with him it would save the trouble of a long trip down to the banker's office on the morrow.

The butler had the dollar.

Since then the private detectives directed by the banker have been seeking the calendar man.

The banker wants to make him a member of the firm.

## Dixonites Who Pencilize the Country

*This is the sixth of a series of articles featuring  
Dixon Pencil salesmen*



Edmond A. St. John

the pencil had man's thinking impressed into its being by fifty-seven separate scientific, mechanical and artistic operations so that its responsiveness would enable your impression to become a valuable and beautiful expression. Over its fine, smooth, flexible, yet tenacious point flows the wide range of 'human feeling,' touching the vast field of interest, responsibility and sentiment, until its equation partakes of your own personality, even to the way you have sharpened its point, and your favorite pencil becomes a necessity."

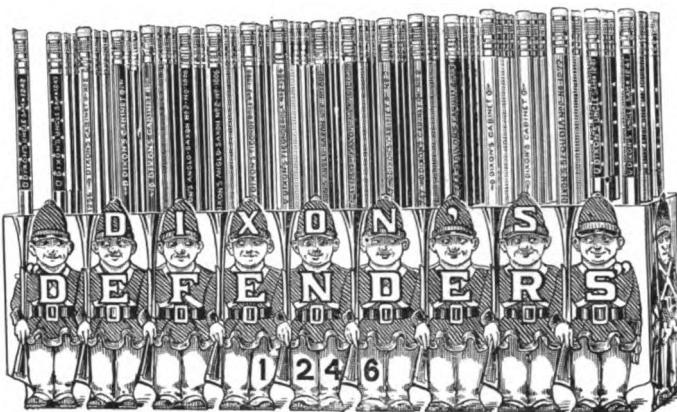
From this it will be known that the subject of this sketch possesses the imagination of an author. To stop here, however, would be to stop at the beginning. St. John, or "The Saint," as a few are privileged to call him, is, first of all, an optimist and a fluent talker, capable of intense feeling, whether in a personal discussion or as a political spellbinder. He is a true friend and a good mixer, temperate other than in talk, a chess and checker player, a bowler, and if not a linguist it is because opportunity has been unkind, for as a versatile coiner of words he has had the distinction of later seeing these children of his fertile brain creep into the book of notched leaves. He is an omnivorous reader with a good memory.

It makes little or no difference whether you know Edmond A. St. John socially or as a salesman of Dixon Pencils and Graphite Products, for it's all the same, it being, as he himself would say, "all a matter of personal equation."

### Reads "Graphite" and Paints With It

"**W**ILL you kindly send me your booklet 'Useful Spanish Words and Phrases'? Your house organ GRAPHITE is fine and much appreciated by us. I am pleased to say further that we have painted our ice plant coils and tanks with Dixon's Silica-Graphite Paint and find it very satisfactory. We like this paint and will continue to use it."—R. Bruce Perry, Chief Engineer, Orlando Water and Light Co., Orlando, Fla.

"**T**HE pencil," says Edmond A. St. John, "is a mystic from start to finish. Transmitting its life in black on white into thoughts and inspirations, it is closer in touch with 'human feelings,' more responsive, more useful than any other inanimate thing. The diamond flashes its soul through fifty-seven optical centers,



### Treat Your Hand to a Good Pencil

**O**UR illustration is a faithful reproduction of the new Dixon's Defender's Assortment now on sale. If you happen to need a pencil and see this particular assortment displayed, do not hesitate to make your selection. Your choice may be an Anglo-Saxon in round or hexagon shape, in yellow, green or purple finish. Or perhaps Uncle Sam dressed in red, white and blue, in round or hexagon shapes may appeal to you. If neither, you may select a Ticonderoga, the pencil with the "smooth edges." After all, you may care for a round or hexagon Cabinet in light blue, maroon or tortoise finish. If none of these please you, why, there is Sequoia, of round shape and yellow finish and named after the Cherokee who taught his tribesmen to read and write.

If you do not see Dixon's Defender's Assortment at your stationer's, tell him about it, or better yet, show him this picture in GRAPHITE. He will know what to do.

### The Unreversible Pencil

"**D**IXON'S Beginners Pencil," said a prominent educator to a Dixon representative, "reminds me of a story I read in the *Ladies' Home Journal*. It is one on my profession, but it's a story for a' that."

"I think," said a visiting member of the School Board, "that the children are not so observing as they used to be."

"I hadn't noticed it," replied the school-teacher.

"Well, I'll prove it to you," rejoined the visitor. Turning to the class he said:

"Someone give me a number."

"Thirty-seven," said a little girl eagerly.

"He wrote '73' on the board. Nothing was said."

"Well, someone else give me a number."

"Fifty-seven," said another child.

"He wrote '75' on the board, and smiled knowingly at the teacher when nothing was said. He called for a third number and fairly gasped at the indignation manifested by a small red-faced urchin, who said: 'Seventy-seven, and see if you can change that.'

"When a teacher wants Dixon's Beginners," concluded the story-teller, "it always means just that, and we can neither reverse the requisition nor the name and number."



### Dixon Dialogues

**W**HAT'S he doing?"  
"That's Grant Wright of 154 Nassau Street, New York."  
"What does he do?"  
"He's a cartoonist, caricaturist, artist, designer, illustrator, draughtsman, sketcher, painter—"  
"Is he all of that?"  
"Oh, yes, and more too. He's a humorist, wit, funny-story teller—"  
"What's he doing now?"  
"Drawing a picture."  
"Of whom?"  
"You! Don't you see where he's looking?"  
"To be sure! And what is that he is drawing with?"  
"A Dixon pencil, of course!"  
"Why 'of course'?"  
"Because he wouldn't think of using any other."  
"Is a Dixon's made as large as that?"  
"Oh, no! That's the size he thinks it should be if made in proportion to the big help it is to him."

### In a Bad Puddle

A CERTAIN firm hired a new bookkeeper who speedily got the accounts fearfully jumbled. The president called the new man into his private office and announced that his work was far from satisfactory. Very nervously fingering the edge of his coat, the bookkeeper entered upon an explanation that lasted ten minutes. When he finished the president growled:

"Your explanation is as clear as mud."

"Well," exclaimed the nervous bookkeeper, seizing at the opening like a drowning man at a straw—"Well, that covers the ground, doesn't it?"

### Business Loyalty

**E**DNA K. WOOLEY, writing in the *New York Globe*, tells us that she is considerably peeved at the remarks made by those efficiency experts who preach about "loyalty." Edna says that it makes her just tired to hear some of these so-called experts tell a bunch of employees that they should be ever faithful to the business, never watch the clock, never criticize the employer and, if they don't like the job, to quit it and go where they will be better satisfied. Edna says that she wanted to get up and say things back to them, but nobody was supposed to do that any more than we are supposed to talk back to the minister, so she kept still.

Edna believes in loyalty all right. She believes that it is the lack of loyalty that makes a lot of trouble that we are up against. But that efficiency expert talked only one side of loyalty. It seems to Edna that it is just as much the business of an employer to be loyal to his employees as it is for the employees to be loyal to the employer. If a business is to be a real success they all have got to pull together.

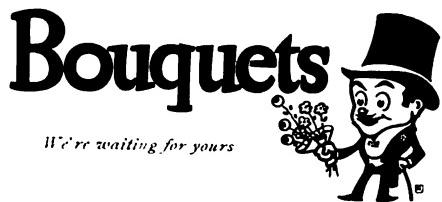
There's something wrong with an employer when the people under him start out to knock his business. With the right spirit emanating from the employer, you will find every hired individual bucking down to doing things right and doing them with enthusiasm, loyal to the core.

But when an employer gives out an atmosphere that he thinks his people are all trying to "do" him, that he believes that they are all grafters, shirkers, quitters, and that they don't seem to know how to run their departments without his help, and wonders why they have not got brains to see this or that, or sense enough to do this or that without his getting after them, and then giving them to understand that they are not worth their salt, and openly and eternally criticizes the people working for him, he must not expect much loyalty from the ones to whom he is not showing any loyalty himself.

He may get civilities and may get smiles, but it is because of the fear they have for him and not because they are heartily in favor of him or his methods.

Edna tells us that she heard one big boss say that he had the finest staff in Christendom, and there wasn't a man or woman on it that wasn't worth what he was getting paid. And Edna adds that that man has one of the most successful concerns in this State—just because every person he hires believes it his bounden duty to boost that business. That man is loyal to his employees and his business, and it makes a regular ring-around-a-rosy-of-a-success.

Edna tells us that if she owned a business, big or small, she would manage to keep in some kind of personal touch with her family of employees. She would create some kind of patriotism for the concern that pays their wages. She would show them what loyalty is by being loyal to them and the business, and she bets that she would not have to have a time clock in the place; that if they were late a few minutes in the morning, she is dead certain they would willingly and gladly put in an extra half hour at night.



"By chance I happened to run across a copy of your July, 1915, issue of GRAPHITE and I became interested. Will you kindly send me other issues of GRAPHITE?"—E. T. Dwyer, Simplex Auto. Co., New Brunswick, N. J.

"I WISH to thank you for September GRAPHITE. I would be pleased to have GRAPHITE each month, for I consider it very interesting. Would it be asking too much to send me a few back numbers?"—O. P. Reuter, Architect, Louisville, Ky.

"WE received a copy of December GRAPHITE and found it so interesting that we shall be pleased to receive the following issues if it is consistent with your policy to place our name on your mailing list."—Winona Mills, 6-30 Wooster St., New Haven, Conn.

"I CERTAINLY do receive some very valuable information from GRAPHITE. 'The Use and Abuse of Ball and Roller Bearings' in GRAPHITE is the most simplified explanation of the subject I have ever read."—Mr. John M. Cooper, 1247 Mulberry St., Harrisburg, Pa.

"I ALWAYS find something encouraging in GRAPHITE, something I must cut out to keep before me, such as 'Improve Your Mind,' in the February issue. The articles for the trade are always so convincing that I always read them too."—(Mrs.) A. R. Smith, 7110 Cresheim Road, Mount Airy, Pa.

"PLEASE send me GRAPHITE each month. Saw the February issue, and it is fine. I use Dixon's Graphite in my automobile, also in the shop, and of course it is foolish to tell you what you already know, that it's the only right lubricant. I'm really sorry for the chap that has bearings and doesn't know Dixon's."—F. A. Campbell, 972 Main St., N. Montello Station, Brockton, Mass.



### Speed Kings Visit a Post & Lester Window

A RECENT attraction in the window of the Boston store of the Post & Lester Company, who have a number of stores throughout New England, consisted of the photographs of forty-six automobile racing drivers in connection with a display of Dixon's Graphite Automobile Lubricants. The photographs included all of the racing champions of 1915 and the winners of practically every 1915 contest upon road, track and speedway. These pictures, which are clearly seen in the photograph of the display, formed through ribbons extending from them to centrally located placards a direct connection with the lubricants used and recommended by the drivers. And arranged within the window about these placards were packages, in pyramids, of the various Dixon Lubricants, including Dixon's Graphite Grease No. 677 for transmissions and differentials.

For the automobile owner who realizes what friction can do and mayhap is doing to his car, we have compiled a little twelve-page booklet christened "Words of Wisdom from the Speed Kings." This, together with another little booklet descriptive of Dixon's Graphite Automobile Lubricants, is sent free upon request.

We shall also be glad to prescribe the correct Dixon Lubricant for each part of any car, provided the name, H.P., model and year of that car are furnished. Include the name and address of your garage or supply house and we will include a sample of Dixon's Motor Graphite, the basic ingredient of all Dixon Automobile Lubricants. For your convenience, mention No. 190-G and we will do the rest.

### Protecting the Public Against Dishonest Advertising and False Pretenses in Merchandising

UNDER the above title Representative Dan V. Stephens of Nebraska on January 21st reintroduced in the House of Representatives the original Stevens-Ayres Bill with a number of important amendments designed to meet the views of many friends of the measure.

The new bill specifically permits discounts for cash and for quantity and for allowances and rates covering costs of transportation.

◆ ◆ ◆

EASTER Sunday this year occurs April 23d. It will not occur again as late as that until 1943, when it will come on April 25th. In the year 2000 it again comes on April 23d.

## A Unique Club

A Club that Sprang into Existence almost Over Night

**T**HIE Club of the Advertising Men's League is located at 47 East Twenty-fifth Street, New York. It is the first and only club-house in New York for advertising men exclusively; a club of artists, writers, producers, placers and advertisers—all branches of advertising and allied crafts. It is a real club—a club where the members feel cheerily at home. It is a personal, individual club for each and every member.

The club was informally opened October 1, and the official opening and house-warming was held October 15, and after ten o'clock that evening no further members were permitted to join without the initiation fee of \$25.00 being paid, and inside of a month there was a growing waiting list.

In this club there is absolutely no tipping. That feature is taken care of by the management to the satisfaction of all, and if this rule is broken—well, it is up to *him*, as it is considered that the first member who gives a fee is betraying the confidence of the club officers and his fellow members.

Again, the directors have voted—no treating. It is an individual club—no obligations given or returned. That's the true spirit of equal fellowship. Each member is thus privileged to order what he wants for himself. He pays for it. There is no rule so hard to keep, but its moral and its logic is apparent and unassailable. Any member is privileged, of course, to bring a guest and buy his limit for him, and they have a special club cocktail—likewise a club cigar, but no member shall treat another member in the club.

No money will pay for anything at the club. The doorman or the cigar man will sell a member a book of coupons, a \$1.00 book, \$2.00 book or \$5.00 book. Payment for what is ordered is made in coupons from these books.

The books are serially numbered, the member signs a coupon when paying for his book, which is torn out for auditor's check. The system is preferable to either signing checks or paying in cash, as one will readily appreciate.

Members desiring night accommodations, belated committees and the like are housed in a most comfortable manner and at a special club rate.

Noonday lunches are a feature of the club, at which time advertising men meet and talk over advertising as well as other matters.

If an unknown member strays in and feels lonesome, and looks it, he is soon made to feel comfortable and at home by some member who makes it his business to be sociable, and it is the request of the management that each member should constitute himself a committee of one to welcome anybody who seems to be looking for acquaintanceship and introduce him into the democratic spirit which prevails more in the Advertising Club than in any organization of the kind which its congenial president, Harry Tipper, knows of.



THIS illustration presents what has been described by those competent to judge, as the most effective black and white advertising card ever produced. It adds to that dignified attractiveness which stationers are constantly aiming for in the appearance of their stores.

And it has sufficient "action" to give it selling power—the power to sell Dixon's Best White No. 352. The pencil it pictures is especially useful for marking upon either black or gray photograph album paper, to letter titles, to describe, to explain, or to make memoranda around the pictures. Or perhaps to draw a border or decorate in some other way the album page.

For architects who wish to make corrections, extensions or other alterations upon blueprints, Dixon's Best White No. 352 is an excellent medium. For the highlights upon gray drawing paper, No. 352 is especially recommended, and also upon all dark-colored surfaces. In fact, Dixon's Best White is a most welcome visitor to many persons, for even women who do their own dressmaking like Dixon's Best White No. 352 because it marks clearly upon cloth. Have you asked the Joseph Dixon Crucible Company, Jersey City, N. J., for one of these hanger cards?

## Double Wedding Bells

"**G**RAPHITE" can print no happier paragraph than the announcement of a wedding, especially where one of the parties is a "Dixonite." But where both of the parties are members of the Dixon Company's staff, our pleasure is doubled.

On Wednesday evening, February 23d, Miss Mildred McCallum and Mr. George Neighbor were married at the bride's residence, Elizabeth, N. J.

Miss McCallum was for a number of years a valued employee of the Dixon Company at its main office, Jersey City.

Mr. Neighbor has been connected with the Dixon Company for seventeen years, and has been superintendent of the Crucible Works for the past eight years.

We lose Miss McCallum, and Miss McCallum loses herself (that is, her name), but since we retain Mr. Neighbor, and also since Mrs. Neighbor will, we trust, retain Mr. Neighbor, we feel somehow that this balance sheet of profit and loss will work out satisfactorily, hymeneally, and in every other way.

GRAPHITE certainly gives the happy and good-looking couple Tennyson's wedding blessing of "Ring out, glad bells," twice over, as is meet.



## Dixon's Paint to Withstand Boiling Oil

**T**O resist boiling hot road oil (from 250 to 300 degrees Fahrenheit)—that's the service which Mr. J. D. Rearden, traffic manager for the Union Oil Company of California, expects from the type of car pictured above, painted with Dixon's Silica-Graphite Paint. And, in realizing this expectation, the German-American Car Company, which concern assumed the task of construction, does not anticipate any disappointment.

The photograph alone does not tell what we consider the most important part of the story, *i.e.*, the part played by Dixon's Silica-Graphite Paint. Perhaps, however, we should summarize in the words of Chief Engineer Ralph Reed, who feels that the Union Oil Company "has something, in the way of paint, to feel 'chesty' over." It may be worth while to mention here, for the information of property-owners, that Dixon's Silica-Graphite Paint successfully withstands the heat of 500 degrees Fahrenheit, and that when it comes to ordinary sun rays, he who uses Dixon's Paint need not worry about peeling, blistering, etc.

Booklet No. 190-B, if you are interested.

## The Crucible Situation

**T**HE crucible manufacturers have been put to sore straits for the past eighteen months in the securing of their raw materials.

First came the embargo on Ceylon Plumbago. This being lifted after a few months left the market in a depleted condition. The natural result was a tremendous advance in price.

Next came the exhaustion of the foreign clay, which is used in crucible making as a binder. The clay used, as far back as Crucible History in this country goes, has come from the little principality of Klingenburg in the Black Forest in Bavaria, where, so the story goes, the entire government expenses are paid out of the export duties collected from the clays shipped out. This Klingenburg clay has for years past been the only clay the crucible makers seemed to think they could satisfactorily use. No shipments of this clay have been made since the beginning of 1915.

Some makers have husbanded the enormous supplies of the foreign clay which they had on hand when hostilities started. This husbanding the stock of the now almost priceless raw material has been done by partially substituting clays from various parts of the United States and by mixing with the Klingenburg clay.

The tests and trials made by the crucible makers during the past twelve months have been almost endless. When one takes into consideration that it takes from six to ten weeks to prepare a graphite crucible for service in the foundry, some slight idea can be formed of what the crucible maker has to contend with. Added to this delay, and before he can even start in on these goods that will not be marketable for two months to come, the chemists' laboratory tests and trials must be made. These have run into the thousands. Then must come the practical tests in a small way in the foundry; for the crucible maker would stare bankruptcy in the face if he continued making up hundreds of thousands of dollars worth of goods out of Ceylon Plumbago, costing from seventeen and a half to twenty-five cents per pound, only to find at the end of two or three months that they might not be of service to the user.

The bright side, however, to all that is that in many cases the crucibles made with American clays have gone a surprisingly long time in the fires. In one case there is a report on a No. 300, which ran forty heats on manganese bronze, and dozens of cases as high as thirty-eight and forty heats on No. 100's melting car box metal. The annoyances now seem to be the non-uniformity of the products secured. Crucibles made by the same potter out of similar materials, at the same time, and burnt in the same kiln, when run by one melter on same grade of metals, rise and fall to a variation that is a shock to both user and maker.

All this will in time be rectified. As soon as the manufacturers have become more familiar with the mixing and blending of our native clays, they will no doubt be able to produce in time a crucible as satisfactory or superior to those manufactured heretofore. The user, however, must use more care in handling the American clay crucibles.

It is imperative that these crucibles are thoroughly dry and warm before going into the fire, and that they are heated up *very slowly* on the initial heat.

Some users make a little fire with charcoal inside the crucible, and others put hot ashes in, before placing the pot in the fire, so that the crucible is hot when it goes into the fire for the first heat. There are certain advantages in heating the crucible from the inside first rather than the outside.

He must be very careful in the matter of wedging, as American clays have not the same tensile strength when hot as foreign clays possess.

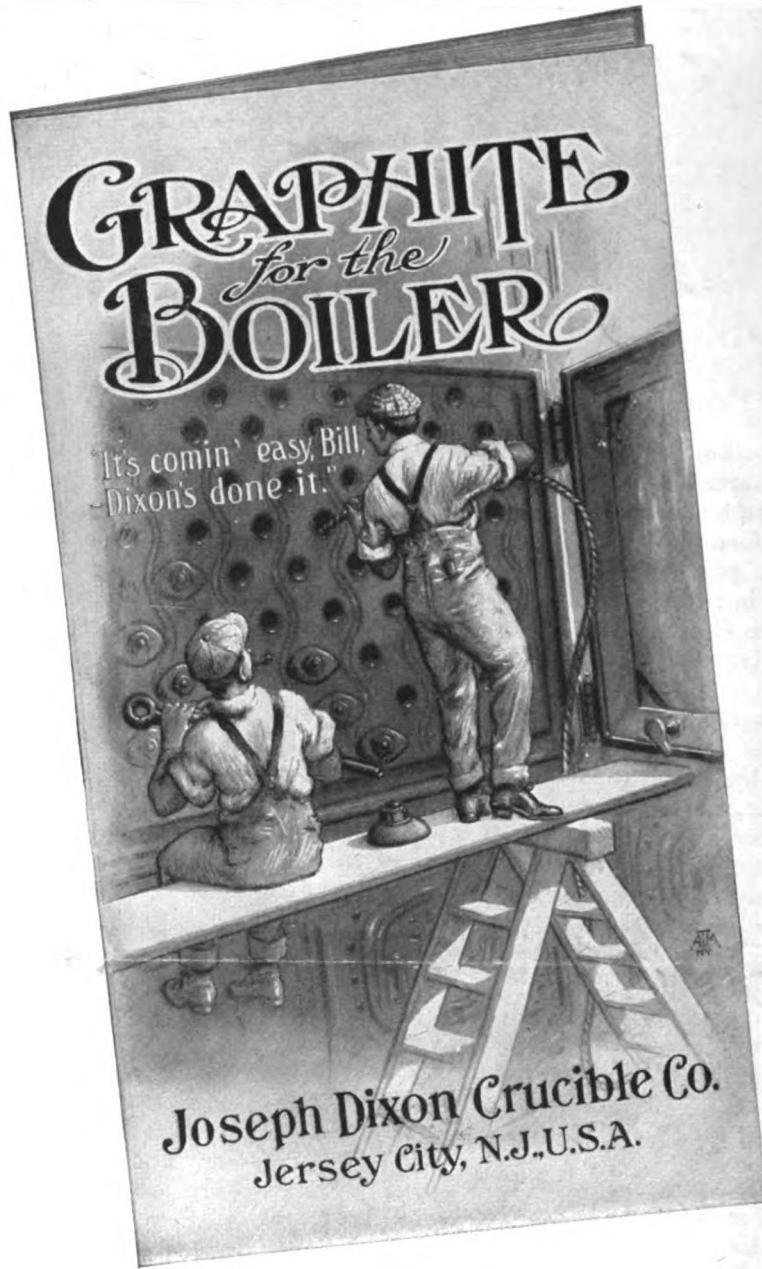
The advance in prices of crucibles is due to the unusually high price of Ceylon Plumbago just at present, just as with zinc, copper, aluminum, lead, etc., but as soon as the war insurances are a thing of the past, then Plumbago will be at a normal figure once more, and crucibles will again be marketed at as low or lower prices than they have been for many years past.

◆ ◆ ◆

"THE manly part is to do with might and main what you can do."—*Emerson*.

"HE who has conferred a kindness should be silent; he who has received one should speak of it."—*Seneca*.

*Just send  
a postal  
for this  
Booklet*



**L**ET Dixon's Flake Boiler Graphite remove scale for you. The explanation of its gentle, mechanical action is fully given in this booklet (No. 190-T), sent free upon request. Do not delay writing for a copy—become acquainted with DIXON'S—"the pioneer boiler graphite."

Made in Jersey City, N. J., by the  
**JOSEPH DIXON CRUCIBLE COMPANY**  
Established 1827

# Graphite

Vol. XVIII

APRIL, 1916

No. 4



"Yes, sir! That's the paint that defies rust!"

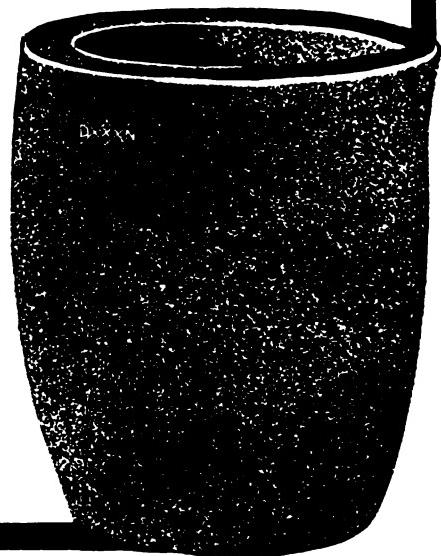
Have you a copy of "Crucibles—their Care and Use"? It's a forty-page treatise with many interesting illustrations and helpful hints for both the user and buyer of crucibles. Your copy will at least be worth the trouble of asking for it—and perhaps worth a whole lot more.

*Ask for it by No. 190 A*

### Joseph Dixon Crucible Co.

Jersey City, New Jersey  
Established 1827

# DIXON



## JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED  
1827

Jersey City, N. J., U. S. A.

INCORPORATED  
1868



Miners, Importers and Manufacturers  
of Graphite, Plumbago, Black Lead



#### OFFICERS

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GEORGE E. LONG, Vice-Pres.  
HARRY DAILEY, Secretary  
J. H. SCHERMERHORN, Treas.  
ALBERT NORRIS, Ass't Sec'y &  
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PHILADELPHIA SALESROOM . . . . . 1020 Arch Street  
SAN FRANCISCO SALESROOM . . . . . 155 Second Street  
CHICAGO BRANCH . . . . . 1323 to 1327 Monadnock Block  
BOSTON OFFICE . . . . . 347 John Hancock Building  
PITTSBURGH OFFICE . . . . . Wabash Terminal Building  
ST. LOUIS OFFICE . . . . . 501 Victoria Building  
BALTIMORE OFFICE . . . . . 616 Professional Building  
BUFFALO OFFICE, 409 Erie County Savings Bank Bldg.  
ATLANTA OFFICE . . . . . 328 Peachtree Street

#### EUROPEAN AGENTS

Graphite Products, Ltd., 218-220 Queen's Road, Battersea,  
London

#### SOUTH AMERICAN AGENT

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS  
Alfredo J. Eichler, 666 Calle Cangallo, Buenos Aires, Argentine

#### CUBAN AGENT

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS  
William Croft, Room 424 Lonja del Comercio, Havana

#### PORTO RICAN AGENT

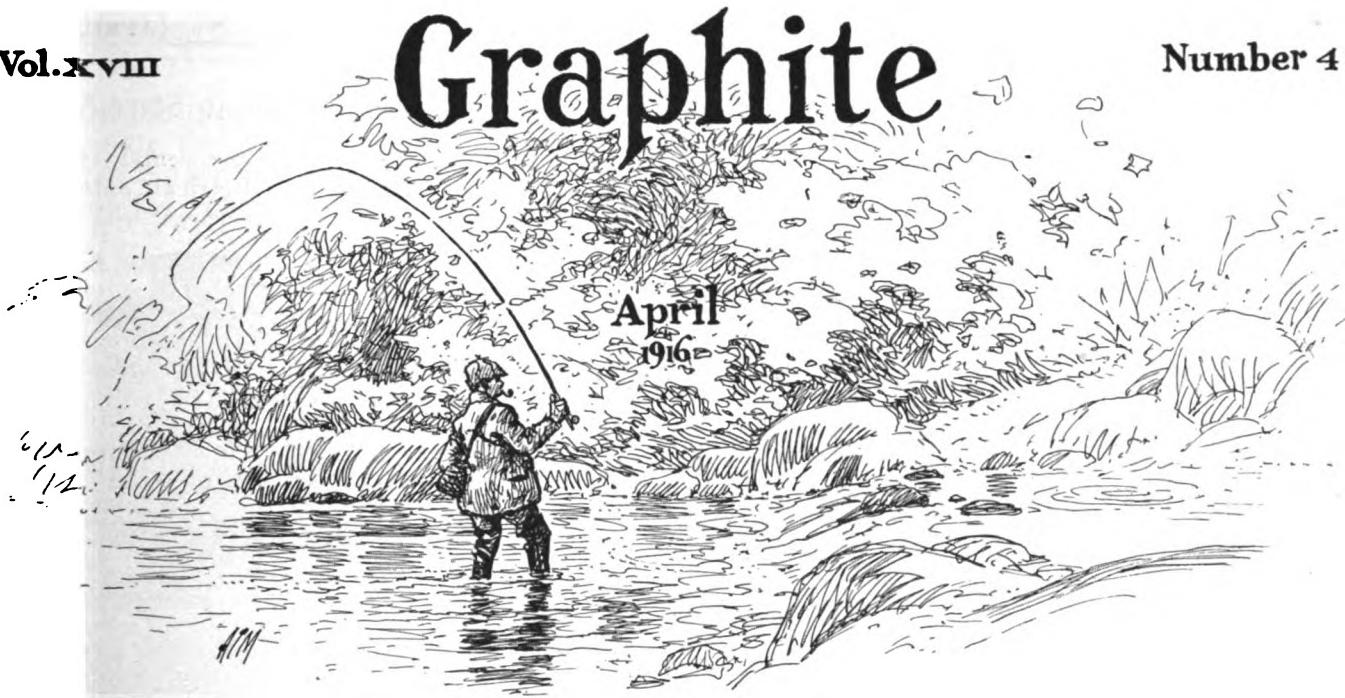
FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS  
H. Glyde Gregory, Royal Bank Building, San Juan

#### LATIN-AMERICAN AGENTS

FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.  
National Paper and Type Company, 31-35 Burling Slip, N. Y.  
With Branch Agencies in Mexico, Cuba, Peru, Argentine,  
Uruguay, Venezuela, Porto Rico and Colombia

#### CANADIAN AGENTS

FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.  
A. R. MacDougall & Co., Ltd., 266-8 King St., West,  
Toronto, Ontario, Can.



# Graphite

## Graphitized Comments

"DIXON'S Black Lumber Crayon No. 494 is the best out-of-door marking crayon I have ever used. I have marking in this yard that was done with Dixon's No. 494 last January (nine months ago), that is as plain to-day as the day it was put on."—*G. E. Busch, R. G. Darnell, Inc., Batesville, Miss.*

SAYS Carl T. Hawley of Syracuse University, whose work has been seen in all of the best exhibitions in Europe and America: "I have been a user of colored pencils for a long time, but now I believe I have found something better than the old wood encased pencil with all of its inconvenience of sharpening. I have given Dixon's Solid Crayons a test and find them splendid—the thing I have been looking for. The possibilities of the larger non-breaking point are also a good advantage."

IN the public schools of Auckland, New Zealand, and at the University of Christchurch, Dixon's Pencils are used almost exclusively.

PERHAPS the student, the amateur, and the she or he who takes an interest in the pencil as a drawing medium, would be glad to know of

one pencil which an experienced art instructor describes as "an all-around pencil producing delicate grays or accents of dark that are perfect on rough or smooth surfaces. For drawing in representation it is a complete equipment. I have used it for many years." Dixon's Sketching Crayon No. 341 is the pencil referred to. Ask your stationer for it.

THE foreman of a Georgia planing mill relates that, happening one day in the engine room he found the chief engineer holding his eye open while the foreman blew flake graphite into it. Inquiry followed. "I have a cinder in my eye," explained the engineer, "and I believe graphite will get it out. I use graphite for every purpose and it has never failed to do the work." Says H. H. Harrison who contributes this story to GRAPHITE, "Here is my definition of an optimist."

WROTE Theo. H. Marburg to F. J. Jarosch: "I have just read the conclusion of your article on 'The Use and Abuse of Ball and Roller Bearings.' It is very interesting indeed and makes me long for the beginning." Mr. Marburg is the presi-

dent of Marburg Bros., Inc., Export and Import Engineers, 1790 Broadway, New York City. Mr. Jarosch, as many readers of GRAPHITE know, is chief engineer of the Bearings Company of America. Perhaps we neglected to explain to our readers that the article referred to by Mr. Marburg and concluded in the February issue of GRAPHITE has been published in pamphlet form and that a copy will be sent free to anyone upon request.

"GRAPHITE in all its forms should be called the 'Engineer's Friend,' because wherever it is applied around machinery it always returns 100% saving in time and trouble. The graphite and oil pot, with its little brush, is part of our regular equipment, and it is always to be found in its appointed place.

"Since we have made the use of graphite general, on all joints, bolts, and nuts, the annoying labor of splitting nuts when taking apart, has been entirely eliminated. No engine room is complete without a supply of this heat and moisture defying substance."—Geo. Gale, Chief Engineer, S.S. "El Oriente," Atlantic Steamship Lines, Southern Pacific Company, New York City.

### Eldorado First

"Deserves First Place in American Art Academies and Colleges," says Art Instructor Nuse

HAVING used the pencil extensively and for several years for both personal and class work, Mr. R. C. Nuse of the Art



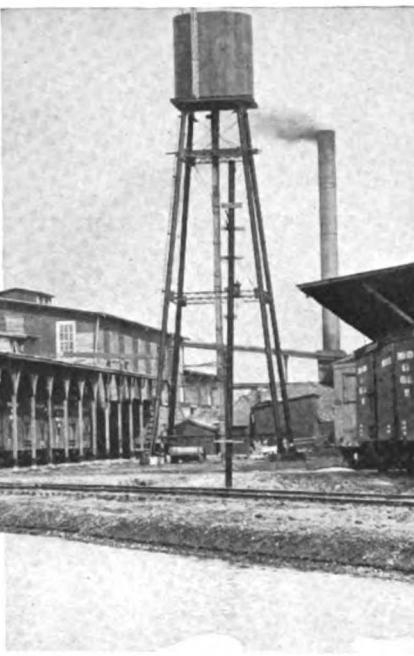
Department at the *Beechwood*, a school of the Cultural and Practical at Jenkintown, Pa., is qualified to give an intelligent expression of opinion concerning the relative merits of drawing pencils as a medium in art.

Moved by a recent trial of Eldorado, "the master drawing pencil," to make such an expression, Mr. Nuse declared Eldorado to "equal, in every respect, any drawing pencil I have ever used. The 4B Eldorado is an exceptional pencil in the non-shining quality of the deepest darks and that it withstands unreasonable pressure without breaking. One oftentimes, quite unconsciously, bears down more than necessary, but, even so, it is a pleasure to find a 4B pencil that will not break. A 'Made in America' pencil possessing such superb qualities as Eldorado, deserves first place in American art academies and colleges."

We are not surprised at this tribute to Eldorado from even one so well qualified to speak. If you, as a user of fine pencils for either mechanical or free-hand work, were to be persuaded by Mr. Nuse's appreciation to order from your stationer the particular gradings that you have use for, and were to compare these Eldorado Pencils with the kind you have been using, we feel sure that the result would be a revelation to you.

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"I CAN hardly wait for GRAPHITE, it is so interesting."—John T. Kroft, Atlantic City Electric Co., Atlantic City, N. J.



### Plant of People's Cotton Oil Company, Selma, Ala.

THE above illustration shows what Dixon's Silica-Graphite Paint is doing.

The People's Cotton Oil Company paint their smokestack once every year with Dixon's Paint, and they paint their water tank and reservoir whenever the plant needs the protection.

Cotton oil plants and industrial concerns of all kinds, in all sections of this country and abroad, use "nothing but Dixon's Silica-Graphite Paint" for similar purposes, because it lasts longer and thus costs less per year of service.

The Dixon Company does not make several grades. We make one grade—the best, and we alone mine Nature's combination of the silica-graphite, which gives an unequalled paint pigment that coats the metal with a long lasting, unctuous, and wear-resisting coating.

See that Dixon's Silica-Graphite Paint is specified and used on your metal work, when repainting occurs. Its fifty years' service is a guarantee of satisfaction.

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"GRAPHITE has been welcomed for some years past, read from cover to cover and passed on to my friends."—W. W. Updegraff, 2527 East 23d St., Oakland, Calif.

### Builds Fire to Start Auto

SAID an experimental engineer for an electrical automobile company: "Experiment with several



lubricants had decided us that either — or Dixon's Graphite Gear Oil No. 675 was entirely suitable for our worm drive until one cold morning we found that — had thickened so that it was impossible to use. For that reason we recommend to all of our customers the use of Dixon's Graphite Gear Oil No. 675. Soon afterward, however, upon a recent visit to Winnipeg, further confirmation of our choice came when one of our car owners telephoned that the wheels of his car were frozen to the ground. This apparent oddity prompted immediate investigation despite the fact that it was eight degrees below zero at the time. Instead of the wheels being frozen to the ground I found that the — in the differential had solidified so that it was impossible to move the vehicle. A fire was built beneath the differential, which thinned out the lubricant so that the car could get to a garage."

### A Conundrum

I'M lead, but never lead; stationary, yet when taken by the hand of man glide swiftly along; black at heart, yet oft make glad the heart of many. Without feet, I often stray. Children love me, and although often very hard, I yield to the pressure of their little hands and break.

What am I? Answer—A lead pencil.  
—“Errica.”

# The Blue Pencil

**B**LUE pencils are frequently the cause

of that feeling best expressed by the plural of the color. Blue penciled papers make many uncomfortable moments for authors, copywriters and others who wield pen and pencil for a living. The blue pencil is arbitrary, destructive and tyrannical. Its marks are both feared and hated. It is the silent voice of the boss. Its message is sometimes full of cheer but more often it is a message of correction or condemnation. "Mother," said the vivacious young lady of tender years after a gentle reprimand, "you're a regular human blue pencil."

This you will say, perhaps, is the soliloquy of shirkers, dodgers of work and of the half-interested ones. But there is more to say about the blue pencil. To bring good news is indeed a part of its daily work. It is good news that the blue pencil is responsible for when the housewife opens her paper in the morning to read of the bargains offered at department stores—the ruthless destruction of prices—the sacrifice blue pencil sales of merchants anxious to dispose of stocks.

Rarely, however, does the blue pencil itself present an appearance as in the advertisement of *The Fashion*, reproduced herewith from a Lancaster, Pa., newspaper.

Here the blue pencil is used symbolically to create at once the thought of a bargain sale. The store which conceived this presentation of news is to be congratulated not only because of the savings its announcement will make possible, but also because of its knowledge of the advertising value of a blue pencil.

Blue pencils and crayons are made in different shades, shapes, lengths and diameters. Dixon's Best Blue Crayon Pencils are of ordinary pencil diameter and of round shape and are made in full blue color (No. 350), light blue (No. 320), and indigo (No. 330). These pencils contain the choicest pigments obtainable and for brilliancy of color, durability and finish of exterior they cannot be surpassed. Each is finished in the color corresponding with the color of its lead.

For those who prefer a larger diameter of lead and case, there is Dixon's Blue (No. 818) of round shape.

For those who prefer the non-rollable hexagon shape of large or mammoth size, there is Dixon's Best Blue (No. 327), and for those who prefer a combination of

blue at one end and red at the other end there

are Dixon's Best (No. 347 and No. 338), also of hexagon and mammoth size, red finish; No. 338 being of nine inch length.

For marking upon cloth, a blue pencil of large diameter (both lead and wood), round shape and polished cedar finish, is very widely used. This is Dixon's No. 782.

Of solid blue crayons, paper covered, and not enclosed with wood, Dixon's Best Blue (No. 786), Best Light Blue (No. 1516), and Best Sky Blue (No. 1517), all of full seven inch length and of round shape. Of these, Dixon's Best Blue is also made in hexagon shape. Of short length, i.e., three and one half inches, but of the same quality and appearance are Dixon's Solid Blue Crayons for school work. These, like their larger brothers, are of full blue (No. 786½), light blue (No. 1516½), and sky blue (No. 1517½).

For railroad men, lumber companies and others, who require a blue colored crayon of unusual thickness, there are made in hexagon shape, paper covered, uniformly four and one half inches in length and one half inch in diameter, Dixon's Lumber Crayons (No. 521 and No. 521½). The latter is softer than the No. 521.

For all sizes of Dixon's Solid Crayons, including the seven and three and one half inch lengths of Dixon's Best and also lumber crayons, handsomely finished nickelized crayon holders are made. Ring clamps upon these holders hold the crayons firmly in position, enabling the user to utilize every inch of the latter.



## Fences—Cedar Park and Hudson City Cemeteries

Hudson, N. Y.

**M**R. W. H. GRAVES, the efficient superintendent of both the Hudson City and Cedar Park Cemeteries, relates his experience with Dixon's Silica-Graphite Paint in a recent letter to the Dixon Company.

"Since adopting Dixon's Silica-Graphite Paint for our cemetery fences in 1911, we have used it to the exclusion of all other paints on the iron fence work.

"I intend to try out Dixon's Olive Green this year on the wood benches also.

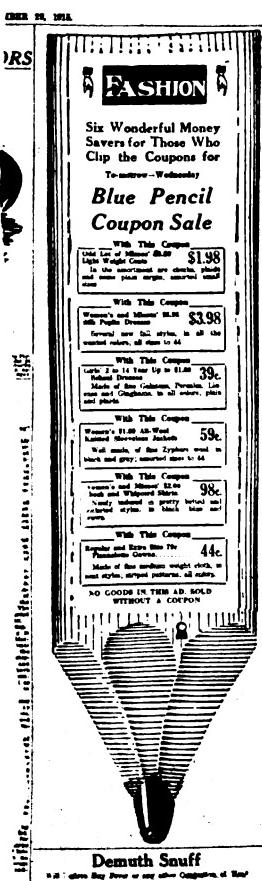
"Our boundary fence of nearly one half mile, painted in 1911 with two coats of Dixon's Natural Color, has given excellent wear, considering the hard shape it was in when painted. Last year about one third was given another coat of Dixon's Silica-Graphite Paint and we shall go over more of it this summer."

Let us serve you with this First Quality paint when next in the market.



## Interested

**W**HY are you taking up botany?" inquired Alice. "Because," replied Katie, "my fiancé is interested in a plant of some kind and I want to be able to converse intelligently with him about his business."



## Dixonites Who Pencilize the Country

*This is the seventh of a series of articles featuring  
Dixon Pencil salesmen*

**A**MONG the large group of Dixon "pencilizers," Mr. Andrew J. Pfaff stands as one of the progressive type. He identified himself with the Philadelphia branch of the Dixon Company in the fall of 1904, and served his pencil-selling apprenticeship by doing missionary work among the large consumers. In this capacity, he so thoroughly acquitted himself that he was soon given an important territory, including Central and Western Pennsylvania and South Jersey, selling Dixon's pencils to the jobbers and stationers. Earnest, persistent effort, combined with enthusiasm and a willingness to take 5 A.M. trains when necessary, has enabled Mr. Pfaff to achieve unusual success.

Mr. Pfaff's "pet" is Dixon's "Anglo-Saxon," which he has properly made the leading 5-cent pencil in his territory.

A great deal of Mr. Pfaff's time is devoted to the interests of Dixon's pencils and erasers for use in schools. Being a loyal Dixonite, it is gratifying to him to hear from educators and school directors the many favorable expressions regarding Dixon's pencils.

Mr. Pfaff is a very conscientious man and is severe in his efforts to do his work in a thoroughly upright, honorable way, so that the after effect is always a desirable one.

For recreation, Mr. Pfaff chooses politics. He served one term in the Pennsylvania House of Representatives.

### "Knowledge" and "Wisdom"

**W**E find the following lines in the query column of the *New York Times*. These lines we are told are from one of the old English poets—name not sure of, perhaps Tupper:

Knowledge and wisdom, far from being one, have oftentimes no connection.  
Knowledge dwells in heads replete with thoughts of other men,  
Wisdom, in minds attentive to its own.  
Knowledge, a huge, unprofitable mass, the mere material on which wisdom builds,  
Till hewn and shaped and fitted to its course  
Doth but incumber whom it doth possess.  
Knowledge is proud that he hath learned so much;  
Wisdom is humble that he knows no more.



Andrew J. Pfaff

## Guatemala Adopts Dixon's



**F**ROM the mounds and ruins of Guatemala, in cities and in ancient town sites, many fine specimens of pottery have been found, and these show that, back in the dawn of life, the residents of what is now Guatemala were most cunning artisans with clay and the kiln.

Though clever enough to be the descendants of ancient Guatemala, of kiln-baked clay products, there is one with which graphite is combined for which the skilled workmen of this picturesque and beautiful Central-American country take off their sombreros to Uncle Sam.

The typical Guatemalan Indian whose "photographite"

appears upon this page is one of over 1,500,000 inhabitants who are getting acquainted with Dixon's American Graphite Pencils. The Dixon Pencil which this native so proudly carried through the streets is, of course, a dummy created to advertise the popular ANGLO-SAXON Pencil, and, save for the poncho thrown across his shoulder, it is probable that nothing else is quite so important to this native as the ANGLO-SAXON dummy in his hands.

Readers of GRAPHITE have to thank Mr. Guy D. Johnson for this interesting "photographite." Mr. Johnson represents the National Paper & Type Company, through whose efforts Dixon's American Graphite Pencils are being rapidly introduced to our Latin-American neighbors.

◆ ◆ ◆

"THE reward of a thing well done is to have done it."  
—Emerson.

"THE soul would have no rainbow  
Had the eyes not tears."

—John Vance Cheney.

# Air Receiver Fires and Explosions

By Frank Richards  
*in Compressed Air Magazine*

"HOW does oily waste accumulate in an air receiver, and what steps should be taken to prevent this accumulation? If an air receiver with an accumulation of oily waste is liable to take fire if allowed to get hot, what steps should be taken to prevent its getting hot?"

"How can cylinder oil be prevented from accumulating on top of water in an air receiver? I read that 'when the water is drawn off, the oil will be deposited on the inner surfaces of the receiver and will be in suitable condition to evaporate and cause an explosion of great violence.' We blow out our air receiver every time the water gage shows a certain accumulation; should we do it oftener?"

It is not possible with few words to dispose of all the matters suggested by these letters for discussion. One of the earliest and most persistent of air compression troubles is that resulting from the use of lubricating oil in the cylinders. This oil cannot remain where it is functionally employed, but is carried away a little at a time by the compressed air, and it naturally accumulates in the receiver and the pipes.

Drawing off, or blowing off, the water in the receiver—and often there is very little water accumulating there—does not generally get rid of the oil, which clings to, and cakes onto, the bottom of the receiver and all along the pipes. This oil has been exposed to high temperature in the act of compression, and generally all of it which could be volatilized at the highest temperature reached has been carried along by the air, and what remains is semi-solid, black and sticky.

The only way to get rid of it when once deposited must be by mechanical means such as actual scraping of the surfaces, so that air receivers would seem to require manholes rather more than steam boilers do, but it is not generally the fashion to provide them. By the way, if anyone is to enter an air receiver for the purpose of scraping and cleaning it, the respirable condition of the air within should first be assured.

In the course of time, if oil is used "liberally" in the cylinders, and if nothing else is done about it, the accumulation of this gummy and highly combustible material may become quite thick, and then it becomes only a question of time as to when it will take fire. Such fires have been so frequent, the cases of air receivers becoming red hot, or nearly so, have been so numerous, that no one has thought it worth while to keep a record of them.

What can cause the ignition of the oily deposit in the air receiver may seem quite puzzling at first, but there are ways to account for it. It may be thought, for instance, that the actual temperature reached in the single act of compression is not sufficient to cause it, but it certainly comes quite near it in some cases. Single-stage compressors in the olden time were often

worked up to 100 lb. gage, and receiver fires were frequent.

Published tables assume, for convenience, the temperature of the intake air to be 60° F., and the temperature of the air when compressed to 100 lbs. is 485°. As a matter of fact, the air is heated more or less in entering the cylinder, so that when compression begins, even with intake air nominally at 60°, the actual temperature of the air at the beginning of the compression is probably not less than 100°, and then the terminal temperature after the compression would be 550°.

I have been unable to find any authoritative tabulated statement of the temperatures of spontaneous ignition for the different oils, although it would be a comparatively simple matter to obtain experimentally the necessary data.

If spontaneous ignitions of oil can occur and do occur in the open atmosphere at temperatures which are reached or closely approximated in adiabatic single stage compression, it is safe to expect that such ignitions should occur at lower temperatures when the compression concentrates 6 or 8 times the quantity of air, and 6 or 8 times the quantity of its oxygen constituent, at every point of contact with the oily deposit.

It is proper here also to suggest the possibilities of spontaneous ignition at much lower temperatures than here spoken of where oil is intimately mixed with other materials.

We are not always quite so careful as we should be—often quite the reverse—about screening and guarding the air intake, and dust is often carried by the air in such quantities as to form a considerable aggregate. This dust collects and mingles more or less with oil which accumulates in the receiver and, not being disturbed when once deposited, the combination, if of the right materials, may easily generate heat sufficient to cause ignition independently of the heat due to the compression. To ignite the oil surfaces, it is only necessary to have a fiery glow, and then a flame, at a single point to have the fire immediately spread rapidly and burn fiercely if the compressor is running. Such fire must soon smother itself if the compressor ceases to supply and circulate fresh air.

If the conditions here suggested are permitted to exist as leading to these ignitions of the oily deposit, the receiver should be strong enough to stand the working pressure even when thus heated by sudden internal combustion, and it may be said that generally air receivers are so strong that pressure explosions from this source are quite infrequent as compared with the numbers of internal fires that occur. When a receiver fire is discovered, by the sudden heating of the receiver or otherwise, the compressor should be stopped at once to check the supply of fresh air.

When we are informed of the conditions causing or preceding these air receiver fires, it would seem to be

a simple matter to avoid them. Stage compression should be insisted upon, with efficient intercooling and aftercooling. This would make the high temperatures impossible and would at the same time reduce the lubricant requirements. Some astonishing records have been made of minimum consumption of lubricating oil at Panama and elsewhere, and air receiver fires have been unknown where these conditions have prevailed.

This is not all of the story about air receiver explosions. There are two very different types of explosions and one definition of the word does not satisfactorily cover them both. There is the explosion which takes place when the only pressure present is the regular gage pressure, perhaps slightly increased for the time, but due entirely to the mechanical compression of the air, and when the receiver or the piping is at the moment not strong enough to withstand this pressure, and then there is a much more destructive explosion caused by a sudden and enormous increase of pressure caused by the ignition of an explosive mixture of some volatile constituents of the oil with the air. The pressures resulting from explosions of this character are comparable with those resulting from the explosions of gunpowder, and the results are correspondingly severe. It is especially for the avoidance of explosions of this type that it is recommended that the oil used shall have as high a flash-point as possible, which means that the more volatile constituents of the oil shall have been already eliminated.

It is a fortunate circumstance that to form a mixture which shall be destructively explosive the proportions of air and of oil vapor must be within certain quite narrow limits. Thus in gasoline engine practice it has been found that the explosive range of mixture is between 2 to 5 per cent. of gasoline vapor and 98 to 95 per cent. of air. Nevertheless such explosive mixtures do form in compressed air receivers, or more frequently in the pipes leading from them, and such mixtures are sometimes ignited with explosive effect. The ignition may come from the receiver taking fire, as previously explained, and the flames being carried along with the air until a point is reached where the explosion proportions of mixture exist.

It seems to be quite certain that if due precautions are taken to prevent accumulations of oily residue and dirt, and if high temperatures are avoided in compression, as economy itself would dictate, neither fires nor explosions will occur.

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**EVERYONE** admits that oil is the cause of nearly all compressor explosions, yet many engineers still cling to the old-time practice of lubricating compressors with oil and expose themselves to the danger of an explosion. To the man on the fence it would seem worth while to try a better and safer lubricant. The fact that there has never been an explosion in your plant does not indicate that one will not occur.

The only safe lubricant for compressors is flake graphite and it is being used regularly in many plants. Graphite is an inert mineral; its normal smoothness is quite unaffected by any degree of heat attainable in air-compressor cylinders. Under no conditions can it be volatilized, carbonized or baked into a hard or

gummy mass to interfere with the free action of the valves. On the contrary, its presence upon working surfaces is a guarantee of smooth operation.

The graphite polish upon the surfaces of valves and pistons insures their proper action with a minimum supply of oil, if it is desired to supply oil in connection with the graphite.

Air compressors have been successfully operated over long periods of time with no regular supply of oil, working on graphite alone, or a mixture of graphite and soapy water. Thus it is possible to avoid the many evils that may come from the use of oil in air cylinders, viz.: carbon deposits on valves, discharge pipes, receivers, etc., inflammable vapors, clogged discharge valves (a most prolific source of trouble), and finally explosions more or less destructive.

Dixon's Flake Graphite, famous as a cylinder lubricant for steam engines and gas engines, renders notable service in the lubrication of air cylinders. It offers a means of evading many dangers and troubles.

We will be glad to hear from anyone wishing information about feeding graphite to engine and compressor cylinders.

### Ten Years' Paint Service



Water Flume, Remington Power & Paper Co., Norfolk, N.Y.

**T**HE above illustration shows the steel water flume, about one mile in length, which has been protected with Dixon's Silica-Graphite Paint from corrosion for ten years, without repainting.

Because of this ten years' service, the Remington Power & Paper Co. again selected Dixon's Paint when they recently repainted this flume, which, as the illustration shows, is one of great size and length.

Almost numberless are these proofs that for severest conditions of service, no protective paint equals Dixon's in long service. One reason is, there is no paint pigment equal to Nature's combination of the flake graphite-silica mined and milled only by the Dixon Company. These flakes overlap on the metal, like fish or armor scales, and protect the metal from the air and dampness more successfully than other protective paint known.

Remember, the Dixon Company has manufactured for over fifty years only ONE GRADE of paint—the very best. It is well worth the money because it NEVER DISAPPOINTS in the longer service afforded.



"WILL you kindly send me about five extra copies of January GRAPHITE? I wish to send them to some engineers who are troubled with serious rusting of piping and iron work in condensers and pans."—D. L. Fagnan.

"You are to be congratulated upon the February issue of GRAPHITE. Both the cover design and the copy make-up of this issue make it distinctively 'classy,' while the reading matter continues to be both instructive and interesting."—Geo. Gale, Chief Engineer, S.S. "El Oriente," Atlantic Steamship Lines, Southern Pacific Company, New York City.

"I WAS particularly interested in the February issue of GRAPHITE and wish to take this occasion to congratulate you upon its wonderfully improved appearance. I am sure it is doing lots of good even among those of us who use fountain pens and have not yet progressed to the luxury of automobiles."—E. Harris, Publicity Agent, Southern Bell Telephone & Telegraph Co., Cumberland Telephone & Telegraph Co., Inc., Atlanta, Ga.

"IF an acknowledgment is legal tender in paying my subscription to GRAPHITE, I tender it fully and freely. In addition I want to say I carry seven Dixon Pencils on my desk all the time, and use 'em too—Veritas, Anglo-Saxon Nos. 2, 3 and 4, Artist's H, VVH and the Indelible. None other need apply—the desk is full. My oil house stock shows Dixon's Paint, Graphite Grease, Flake Graphite and Belt Dressing. My wife likes Dixon's Stove Polish. That cover page is O.K. (February). The word "GRAPHITE" is a little heavy, but I won't knock the page for one word."—Elmer E. Ehrgood, Glasgow Iron Co., Flanging Dept., Valley Mills, Pottstown, Pa.

## A Few Bouquets from Chile

"THE writer is a constant and very interested reader of GRAPHITE and has managed to induce our departments to use Dixon's Flake Graphite and Dixon's Pipe Joint Compound, also in one department some of Dixon's Silica-Graphite Paint. As we had a very large stock of Dixon's Paint, some of it was used for painting boiler drums in the water-distilling plant. As these boilers are fed with sea water and steam raised at 90 pounds working pressure, a heavy scale forms in eighteen or twenty days, but so long as we continued to give the flues and the inside of the drum a good coating with Dixon's Paint before starting up, the scale has been *easily detached* and the boiler has remained *free from corrosion* even after four years' use. Having run out of your paint, the last time a boiler was opened the scale was very hard and adherent, costing very much time and money to clean out. I have now had it painted with finely ground Flake Graphite mixed with water, and I await the result; if good, then it will be much better when we receive the Boiler Graphite and can add it regularly to the feed water. We have thirty or more large boilers waiting to use it if it is successful. All our boilers are Lancashire type, thirty feet long by eight feet diameter."—J. T. Humberstone, Cia. de Salitres y Ferrocarril de Agua Santa, Iquique, Chile.

## Graphitoleo

"RECEIVED the samples of Graphitoleo and tested it thoroughly on my shot-guns, rifles, revolvers and reels, and am delighted with the result and consider it a perfect all around lubricant for the sportsman, and I hope it will soon be available generally in convenient sized tubes. I purchased a large tube of it from the Ohio Rubber Company of this city as I always want a good supply of it on hand.

"In reply to your favor of the 17th will say that you are perfectly welcome to use my testimonial in regard to Graphitoleo in any way



you wish, if you think it worth while.

"Have long been convinced that any fairly good gun should outlast the shooter if properly lubricated, but heretofore the proper lubricant has been a serious problem. Have tried the various fine oils and while they proved more or less satisfactory for a short time, they all lacked staying qualities, and while such fine oils no doubt give good service when applied to watches and other such delicate instruments, have not found them at all satisfactory for firearms.

"One doesn't realize how perfectly easy and smooth and absolutely without friction the action of a hammerless shot-gun or repeating gun of any kind can be made by the generous application of Graphitoleo to all frictional surfaces until he has tried it personally.

"Took the stocks off my two hammerless (Smith and Parker), and applied it thoroughly to the actions and I never knew that these guns could be made to work so smoothly and easily.

"Wishing you unlimited success with Graphitoleo, I am,

E. H. LEWIS,  
"The Pullman Company,  
Cincinnati, O."

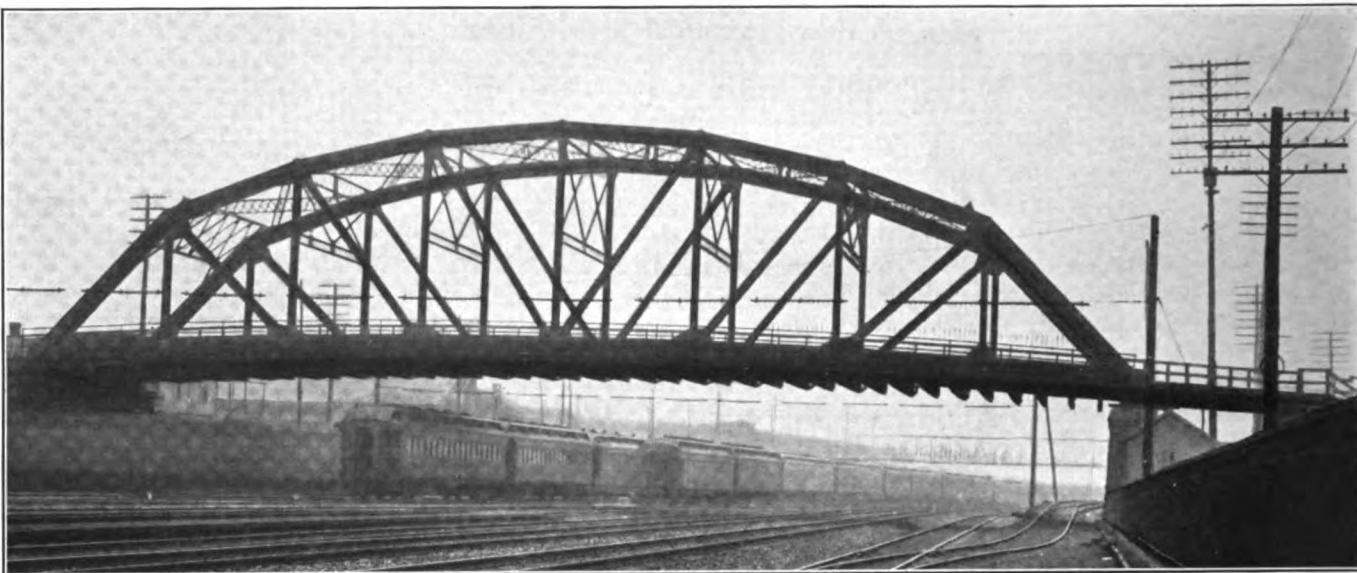
## Eastern and Western Wisdom

"IT is lucky to have prosperity on top of prosperity," is a Japanese saying.

It is also a saying of those with experience, that it is lucky to have good paint on top of good paint.

In painting, choose only that paint which has proven the reliability of its service under the most trying conditions, and when repainting is needed don't experiment but use the time proven "LONGEST SERVICE" paint.

Dixon's Silica-Graphite Paint has been in the market for over fifty years and has always been made in FIRST QUALITY only. The vehicle used is pure, boiled linseed oil.



### Seventh Street Viaduct, Altoona, Pa.

**T**HE following letter to the Dixon Company from Mr. James W. Shields, the well-known "efficiency" engineer of Altoona, Pa., speaks for itself:

"This is a tardy reply to your letter because I desired to acquaint myself with the condition of the paint on the Seventh Street Bridge before making any definite statement.

"The steel work received one coat of Dixon's Silica-Graphite Paint in the shop and two coats of the same material after erection in the fall of 1913. The paint has thoroughly protected the metal and I was unable to find any indication of deterioration."

The "LONGER SERVICE," the "GREATER ECONOMY PER YEAR" service given by Dixon's Silica-Graphite Paint are reasons why the ablest municipal and railroad engineers specify this "LONGEST SERVICE" paint.

There's a substantial reliability in the Dixon policy of "ONLY ONE GRADE—THE BEST." If Dixon prices are a "LITTLE HIGHER," the paint delivered is "A GREAT DEAL HIGHER" in quality and length of service. Therefore the higher grade engineers specify Dixon's Silica-Graphite Paint.

### Easter Island, the Mystery of the Pacific

**A**T this particular time it may be of interest to call the attention of readers of GRAPHITE to Easter Island, the unsolved mystery of the Pacific. Its position is about 2,000 miles from the mainland of South America, and 1,400 miles distant from its nearest neighbor, the Pitcairn Islands. Here, in the vast South Pacific Ocean, lies this isle, volcanic in character, only 42 miles in area, a mere speck of land. Within its limited area, triangular in shape, there are three craters of extinct volcanoes, one of them nearly 2,000 feet high. Up to 1864 there were several thousand inhabitants on Easter Island, but large numbers of them were taken from there and put to work in the

guano diggings on the Chincha Islands. To-day there are less than 200 in number left on this island.

The island was discovered by a Dutch captain who gave its present name in commemoration of the day on which land was sighted. The chief interest of the island is to be found in the wonderful statues and other amazing archaeological remains. In this tiny island is a remarkable display of hundreds of sculptured statues, colossal in size, and erected upon cyclopean masonry; stone houses over 100 feet in length with walls 6 feet in thickness, built like forts; and tablets curiously inscribed with hieroglyphics in no way resembling anything else in the world, doubtless the written language of the ancient inhabitants, but one to which the key has been lost.

Visitors at the National Museum at Washington will find there one of the stone images from Easter Island, and also a skilfully incised wooden tablet found there. The hieroglyphics are made up of pictures of men, animals, and various designs. The curious feature of the alphabet is its arrangement. It reads from left to right; then it is necessary to invert the tablet, and continue from left to right, repeating the process until the end of the inscription.

Remarkable as all of these ruins are from the strangeness of their appearance, the greatest interest and the greatest problem which they present to us is the story that they might tell of the vanished civilization which erected them. That they are of prehistoric origin cannot be questioned, but who were the builders of these wonderful specimens?

### It Converted Him

**E**CONOMY!  
Efficiency!

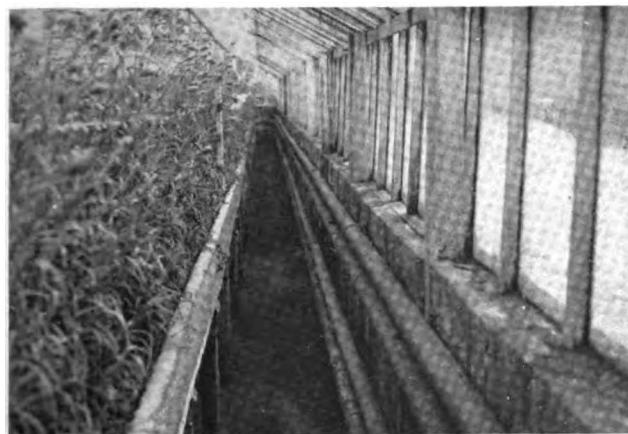
Spell "Dixon's Silica-Graphite Paint."

His "kicks" are o'er;

He swears no more;

The grumbling sinner's now a saint.

"His soul awoke and with the soul woke the mind. He discovered that true work paid and nothing else did pay."



### Sixteen Years' Paint Service Florists' Attention

**T**HE above illustration shows the greenhouse of Mr. Charles H. Allen, the well-known florist of Floral Park, N. Y.

As is well known in the florist trade, Dixon's Silica-Graphite Paint is premier choice among florists for the protection of steam heating pipes, boiler fronts, and all metal, and even woodwork of a greenhouse.

The reason is that Dixon's Paint gives LONGEST SERVICE and is more economical per year. Also the pigment sets up no chemical action and does not injure the growth of flowers in any way.

We quote below Mr. Allen's recommendation of the work done by Dixon's Silica-Graphite Paint around his greenhouse.

"CHARLES H. ALLEN,  
"Floral Park, N. Y.

"I used Dixon's Silica-Graphite Paint on my hot-water pipes SIXTEEN (16) years ago, and the pipes are still free from rust. I require some more for other pipes and, of course, shall use only Dixon's Silica-Graphite Paint, as it is by far the most serviceable for the purpose.

"Yours very truly,  
(Sd.) "CHARLES H. ALLEN, Florist."

We should be glad to hear from florists if they are interested in other similar references, and we shall also be glad to supply florists with this unrivalled paint, either direct or through local dealers.

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### Needed Some Flake Graphite

"WAITER, have you ever been to the zoo?"  
"Why, sir, do you ask?" returned the astonished servitor.

"I repeat," demanded the peevish one. "Have you ever visited the zoo?"

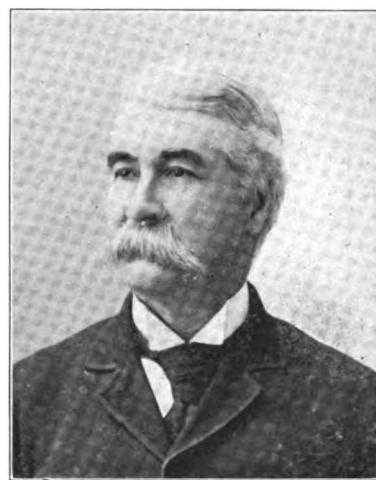
"Well, no, sir."

"You ought to go," growled the peevish one. "You'd enjoy seeing the tortoises whiz past!"

### George G. McLean

**G**EORGE G. MCLEAN died at his home in Portland, Conn., on Thursday, February 17th, at the age of 78 years.

Mr. McLean was identified with the Dixon Company for the past thirty-six years, and his enthusiasm for the quality of Dixon's American Graphite Pencils was an important factor in their introduction to the educational interests of the country.



Mr. McLean was born in New Britain, Conn., September 21, 1837, and in 1858 graduated from the State Normal School in that city, immediately taking a position in the old brownstone school-house in Portland, Conn. Then to Bridgeport and later to New York City, where he taught for a few years; finally establishing a book and stationery store in Middletown, Conn., sold afterwards to the late Lucius Hazen. In 1879 he started a wholesale stationery business in which he prospered and which brought to him many valued friends and acquaintances in Hartford and the larger cities. He later became identified with this Company, for the purpose of introducing Dixon's Pencils into the schools throughout the country, particularly the Middle West and Central States.

His vitality, bigness of heart, loveliness, congenial temperament, and capacity for thorough work brought immediate success, and the demand for the Dixon Pencils became so great that additional help was required and his personal field narrowed to New York State and New England.

The organization of the Educational Department under Mr. George H. Reed relieved Mr. McLean of the intricate systems now so necessary in modern business, but he retained an active supervision of the general plan and scope of the educational work, and was ever ready to aid by his advice, which was of great value, due to his wide acquaintance with school people and stationers everywhere. Copying from Geyer's *Stationer* of February 17th, writing on the subject of death, which has laid its hand heavily on the stationery trade within the past few days—

"Their long years in business were filled with honor and distinction in their sphere of activity. They were successful men, and their influence will be felt long after their personalities fade from memory."

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"THIS is to let you know that I appreciate very much receiving each month the copy of your publication GRAPHITE."—H. E. Satterfield, Professor of M. E., A. & M. College, West Raleigh, N. C.



*Unclimbable woven steel chain link fence and gates furnished and erected by the J. W. Fiske Iron Works*

**F**ENCES, like the type erected for the Cook Linoleum Works of Trenton, N. J., are exposed, not only to rain and snow, to hail and sleet, and to the hot rays of the sun, but to the carelessness of passersby.

# DIXON'S SILICA GRAPHITE PAINT

protects this and many other types of plain and ornamental iron fences because it is the most economical paint per year of service. You figure it by dividing the number of years into the FIRST COST. Its 50 years' record is a guarantee of satisfaction. Made in FIRST QUALITY only. Read Booklet No. 190-B, sent free upon request.

Made in Jersey City, N. J., by the  
**JOSEPH DIXON CRUCIBLE COMPANY**

Established 1827

B-113

THE DEVINNE PRESS, NEW YORK

G R  
No. 57



# Graphite

"A Big Tree Forest"

Drawn with Dixon's Eldorado. "The Master Drawing Pencil."

MAY 1916  
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When you think crucibles, think of Dixon and remember that the Dixon name stands for the longest and widest experience in the crucible industry.

*Send for catalog No. 190-A, it includes crucibles, retorts, phosphorizers, nozzles, sleeves, etc.*

### JOSEPH DIXON CRUCIBLE COMPANY

Jersey City, New Jersey

Established 1827

# DIXON



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ESTABLISHED  
1827

Jersey City, N. J., U. S. A.

INCORPORATED  
1868



*Miners, Importers and Manufacturers  
of Graphite, Plumbago, Black Lead*



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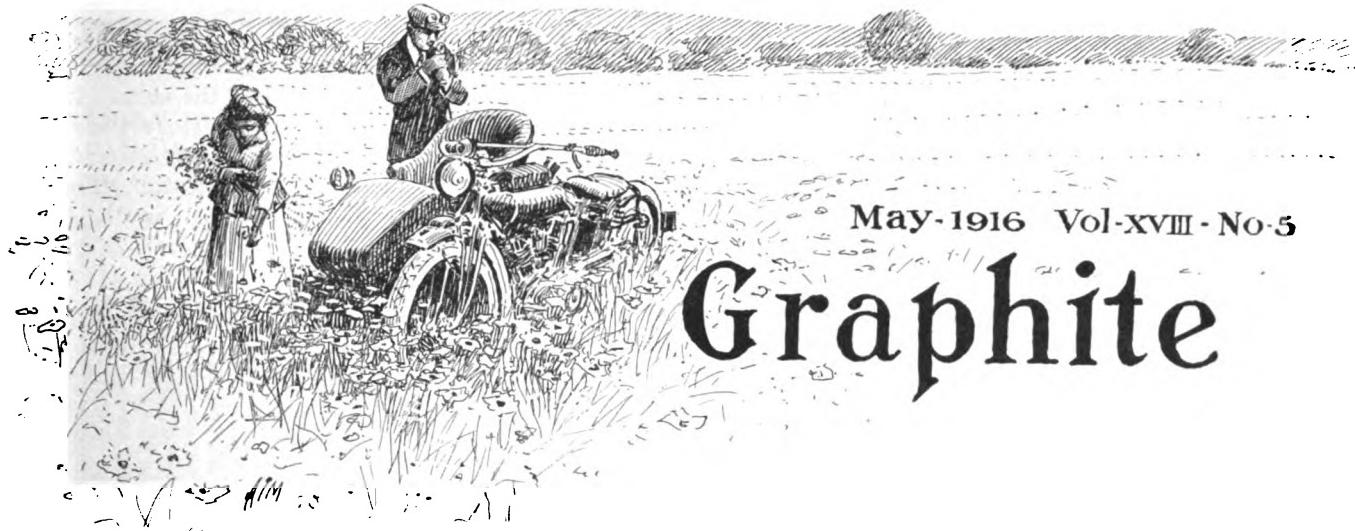
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May-1916 Vol.-XVIII - No.5

# Graphite

## Graphitized Comments

DIXON'S  
Best White

No. 352 is the

ideal pencil for photographers, and is something they have been wanting for some time.—*The Western Merchandise & Supply Company, 324 W. Madison Street, Chicago, Ill.*

"WE have your esteemed favor of the 28th ultimo and we regret that you cannot give us crucibles as good as the old ones, but kindly do your best and give us the very best product you can. The question of crucibles is getting to be a serious matter now, and we would appreciate your endeavors on our behalf."

"You did right in entering our order, in order to make as prompt a shipment as possible, and we are simply writing this letter in confirmation of our satisfaction over the way you have handled this particular order to make a fairly prompt shipment."

"I HAVE, for three years, been using Dixon's Graphite Automobile Lubricants in my Ford truck and Overland, and have found these lubricants to give better satisfaction than any I formerly used."—Geo. A. Ward, Prop. Ward's Rest Inn, Centreport, L. I.

"WE appreciate just what you are up against, and we are to-day sending another standing order for 1916 shipments and we have asked our chief clerk to leave the price blank."

### A Few Paragraphs of General Interest

WHEN the big Astor Cup Race was held at the Sheepshead Bay Speedway, some of the entrants fell by the wayside through various causes. But the three who took the honors must have had everything about their car in tip-top shape or they could not have carried off the palm, with all their dare-devil driving. In one particular they were well equipped, and that was in the matter of lubrication. *Every one of the "big three" used Dixon's Graphite Grease for transmissions and differentials.* They've been using Dixon's constantly, in fact, in all the big races. There's a pointer for those who drive, whether it be a limousine, a truck, or a jitney.

Do you take care of a Chevrolet? If so, ask us for our Chevrolet lubricating chart.

"AFTER trying many elevator plunger greases without success, I tried Graphitoleo, and though it costs much more per pound, I find it the best I can get, as it lasts so much longer, giving perfect satisfaction."—T. S. Thomson, Chief Engineer, Hotel Alexandria, Los Angeles, Calif.

"GRAPHITE contains many articles that are of interest to me."—Gordon Bulloch, Chief Clerk, Smelting Dept., Arizona Copper Co., Ltd., Clifton, Ariz.

"INASMUCH as it is impossible for you to get

the same material from which you have in the past been making these crucibles, we will take what we can get with the understanding that these crucibles are to be made of the very best material obtainable, and make them as serviceable as it is possible to make them under the present existing conditions."

Own an Overland? Then why not send a postal for our Overland lubricating chart?

MR. SAM MAYER, the old-time manager of the Chicago branch, always took a delight in collecting curious addresses of the Dixon Company. We doubt if he ever had one much ahead of the following:

THE NIXON CRESOL PAINT CO.,  
Jersey City, N. J.,

which reached us, even though "Nixon Cresol" was the nearest the man could get to "Dixon Crucible."

DRIVE a Cadillac? Then you need our Cadillac lubricating chart, sent gratis.

ONE of our customers in the photo material business writes us: "We have had your 'Eldorado' pencils tested out by one of our expert retouchers, and he states that the quality is splendid."

DIXON'S ETERNO Copying is what put the pen in pencil.

## New

**T**HE Lubricating Department has just compiled a 16-page booklet called "Waterproof Graphite Grease."

This booklet explains fully, in a concise and clear way, how many difficult lubricating problems have been overcome. It deals with the care and up-keep of heavy slow-moving machinery and parts that are exposed to unusual wear. The subjects treated are the lubrication of elevator and pump plungers, transmission cables, heavy chains and gears, pulp and paper machinery.

To anybody interested in the subjects mentioned, we will be very glad to send a copy of "Waterproof Graphite Grease."

Just send a postal saying you want Booklet No. 190W.

## We are Well Known

**A**N envelope mailed in Bay City, Mich., and addressed "Dixon's Graphite Grease, 677, Detroit, Mich." reached us promptly, thanks to the Detroit post-office adding "Jersey City, N. J." As we have said before, it would be especially interesting were we able to recall and reproduce all of the various addresses that have been put on envelopes for the Dixon Company. So far as we know, even the most obscure ones have reached us sooner or later.

## A High Testimonial

**N**EVER overlook the smokestack. In fact, you could not, because it overlooks you. It is the highest part of the plant, and when it is painted with Dixon's Silica-Graphite Paint it is protected by the highest brand of paint. Here is an important testimonial to prove it, received from the Hooper Lumber Company, San Francisco, Cal.:

"This is to certify that in June, 1914, we had the smokestack at our plant at Mariposa and Illinois Streets, this city, painted by Mr. W. E. Frey, with Dixon's Silica-Graphite Paint. The work and the material proved so satisfactory that we are now having our stack repainted with Dixon's."

## Dixon's Graphite Pipe Joint Compound

**D**IXON'S Graphite Pipe Joint Compound allows the threads of screw joints to move so easily upon one another that a close, tight connection can be readily made. It



is useful for steam, water, and gasoline piping. It never "sets" like red lead, but allows joints to be easily opened at any time without damage to tools or fittings.

In addition to use on threads of pipes, this compound is valuable for nuts, bolts, studs, gaskets, etc. Prevents rust and resists corrosion of all kinds.

Four ounce collapsible tubes for auto use; also in one and five pound tin cans. Larger packages if desired.

## A Most Useful Tree

**A**CCORDING to an article printed in the *New York Sun* there is a wonderfully useful tree in Brazil called the carnahuba. Its roots are possessed of the same medicinal properties as sarsaparilla; it yields a large quantity of lumber for building purposes; from the leaves is obtained a wax from which candles are made, and the straw is used in the manufacture of hats, brooms, mats and thatching. The fruit of this tree is food for cattle; the nut is sometimes used as a substitute for coffee, and the pith of the stem answers the purpose of cork. From various parts of the tree are obtained vinegar, wine, salt, an alkali used in making soap, flour, a liquid resembling the milk of the cocoanut, a starch similar to sago and a saccharine substance; musical instruments and pumps are made

from the wood of the stem. If this sounds like a fairy story the reader is referred to the impartial and supposedly ultra-authentic "Foreign Commercial Guide. South America."



## Dixon's "Movie" Assortment No. 435

**Y**OU will find well distributed through the stationery stores, a very attractive assortment of pencils contained in a counter display, under the name of Dixon's "Movie" Assortment No. 435.

The hexagon revolving drum carries three dozen selected pencils with tips and rubbers—every pencil being good.

You need not hesitate to select one or more for your requirements, as, unless you are particular regarding the color of the outside finish, you will be satisfied with the quality of any you may take.

We have ornamented the panels of the carrier with fine portraits of six of the leading favorites in movies, that the eye may be first attracted as a guide to the good judgment of the pencil user, knowing as we do that a Dixon pencil once introduced needs no further influence toward permanent friendship.

# There is Nothing New Under the Sun

RALPH WALDO  
EMERSON once

said: "Next to the originator of a good sentence is the first quoter of it." This saying has brought to our mind two illustrations which prove the truth of this statement.

The first was brought to our attention by reading an article by Mr. Gridley Adams of the Stewart-Warner Speedometer Corp., in *Printers' Ink*, in which he alludes to a saying which has been often attributed to Elbert Hubbard and sometimes to Emerson or Thoreau. It is: "If a man write a better book or preach a better sermon or make a better mouse-trap than his neighbor, even though he build his home in the midst of a wood, the world will make a beaten path to his door." Mr. Adams goes on to state that if the searchers for this quotation will look in a copy of Emerson's *Journal*, volume 8, page 528, they will find the following: "I trust a good deal to common fame, as we all must. If a man has good corn, or wood, or boards, or pigs to sell, or can make better chairs or knives, crucibles or church organs, than anybody else, you will find a broad, hard beaten road to his house, though it be in the woods."

We had a little curiosity to look this matter up and of course, found it exactly as Mr. Adams states, but we also found a little further information which we will add for the benefit of those interested. Continuing from the end of Mr. Adam's quotation is the following: "And if a man knows the law, people find it out, though he live in a pine shanty, and resort to him." This was published in an edition of Emerson's Works printed by Houghton Mifflin & Co. of Boston, Mass., in the year 1912; the *Journal* was written in 1855, when Emerson was 51 years of age.

The editors have added an explanatory note at the bottom of the page, which is as follows: "There has been much inquiry in the newspapers recently as to whether Mr. Emerson wrote a sentence very like the above which has been attributed to him in print. The editors do not find the latter in his works, but there can be little doubt that it was a memory quotation by some hearer, or, quite probably, correctly reported from one of his lectures, the same image in differing words." This would seem to indicate, as the editors say, that while Emerson was the originator of a good sentence, in all probability Hubbard was the first to quote it, and in doing so he "retained the same image, but with differing words."

The second illustration was taken from an article in the *New York Globe* contributed by Joseph Whitton. In it he refers to the quotation which has been identified for many years with former Secretary of State, Honorable Wm. Jennings Bryan. In one of his speeches, we think it was at the Chicago Convention, Mr. Bryan is quoted as saying: "You shall not press down upon the brow of labor this crown of thorns.

You shall not crucify mankind upon a cross of gold." Everyone will probably remember this sentence.

Mr. Whitton goes on to state that in an old play, which was written long before Mr. Bryan was born, called "Jack Cade," now out of print, and in all probability printed in England in the early part of the previous century, Cade calls his followers around him and makes a speech denouncing the authorities and warning them in the following words: "Upon the brow of toil thou shalt not place the crown of thorns, and the bondman of the soil shall not be crucified on Mammon's cross." This would seem to indicate that the former Secretary had followed along the lines of the late Elbert Hubbard, and while he was not the originator of this sentence he was probably the first quoter of it.

In this latter case we do not think that Mr. Bryan improved on the original. The point to which we wish to call attention is that in the original version Mr. Emerson thought the crucible of enough importance to be considered in the same class as a church organ. The fact that Joseph Dixon, the founder of the Joseph Dixon Crucible Company, came from the vicinity where Emerson spent his life may have had something to do with his using the crucible as an illustration.

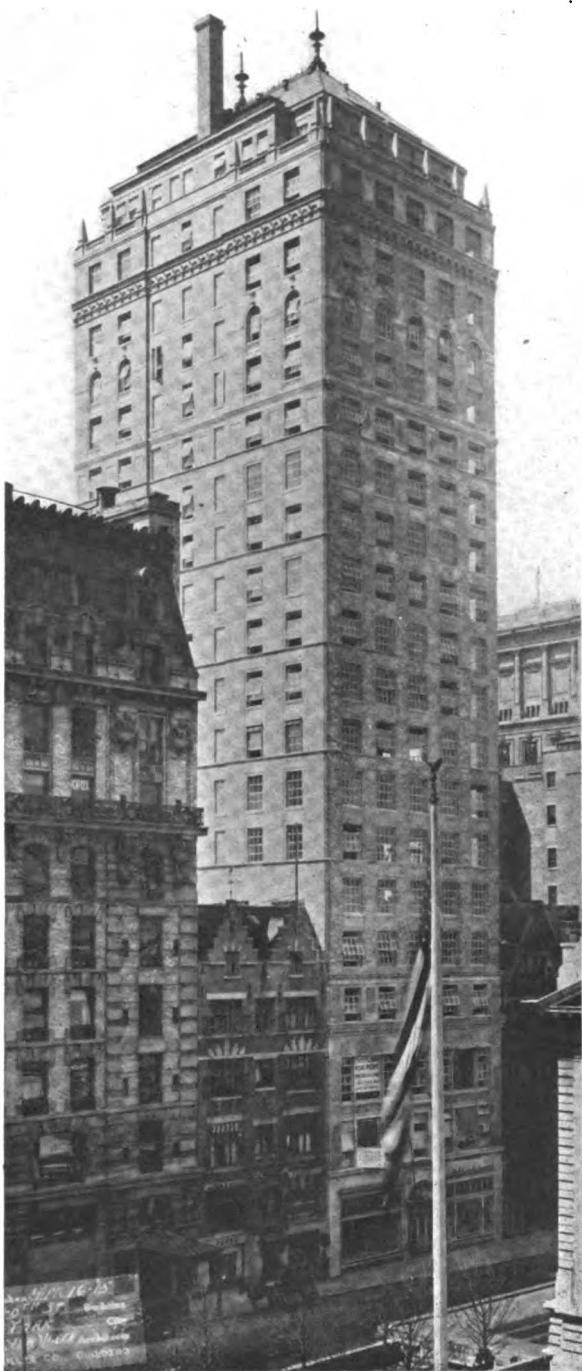
## More About the Campbell Locomotive Lubricator

WE have found from a shop standpoint that the lubricator has saved a great deal of expense in the way of facing valves and renewing cylinder packing rings. Prior to the application of the lubricator we found it necessary to face valves as often as every two weeks, and cylinder packing rings would last about the same time. The use of graphite in the cylinders has certainly produced some saving in fuel, as it has kept valves and cylinders in good condition, thereby preventing them from blowing."

The above quotation is copied from a letter written to D. R. Niederlander, manufacturer of the Campbell Graphite Lubricating System at St. Louis, and follows a ninety-day test of this system in which Dixon's No. 1 Dry Flake Graphite was used.

The Campbell device is a simple one, consisting of a can holding about one pound of graphite, sufficient for 5,000 miles, an air valve plug and a graphite valve plug with sectors manually operated by means of a lever handle. The cup is bolted to a bracket in the cab and piping extends to the main reservoir and to the relief valves of the locomotive. It cannot get out of order and is low in price.

The opinion of the superintendent of motive power, above written, is welcomed as another confirmation of our claims for the efficiency of Dixon's furnishing auxiliary lubrication of real value.



**Number Eight West Fortieth Street  
Building, New York City**

BY courtesy of *Record and Guide*, New York, we are able to reproduce above, an illustration of this twenty-story office building. The structural steel work is protected by Dixon's Silica-Graphite Paint, a favorite paint specified by architects, engineers, etc., for this purpose on many similar leading buildings in America and abroad.

The architects were Messrs. Starrett & Van Vleck; the general contractors, George A. Fuller & Company; the steel contractors, Messrs. Post & McCord; and the American Bridge Company was the fabricator of the 1600 tons of steel involved.

The Dixon Company would be pleased to hear from architects, owners, engineers and superintendents interested in the best modern protection of steel work from corrosion, whether it concerns the steel structure of the building or the maintenance of tanks, fire escapes, smokestacks, boiler fronts, inner surfaces of steam drums, shutters, etc.

### Dixonites Who Pencilize the Country

*This is the eighth of a series of articles featuring  
Dixon Pencil Salesmen*

**A**LTHOUGH eighth in this series of articles, there are many who perhaps feel that Mr. William A. Housten ought to be nearer the top of the list. It is not his fault or due to any shortcomings of Mr. Housten's that he is not in first place. All of the Dixonites in this series are in first place.

It was September 1, 1899, when Mr. Housten started his career as a Dixonite. Right then and there he must have made blue-prints of his plans to succeed, as his business shows a steady and consistent increase as each year has gone into Dixon history for him.

As a pencil salesman he is a strong believer in the American Graphite, Anglo-Saxon and Eldorado brands. He thinks and believes in quality and in so doing finds it comparatively easy to specialize on high-grade business.

Being a graduate of the Baltimore High School, Mr. Housten likes to get back as nearly as he can to the "happy school days" and he finds the most convenient route to do so by the way of school conventions, where he is most popular. Being of a thoughtful disposition and also believing that Baltimore is a city of beauty as well as business, he usually takes it upon himself to guide and escort all of the visiting teachers to places of interest. A big personality has been a boon to him.

The greatest asset Mr. Housten has in selling pencils is WORK—work early and work late—work at the conventions and work in the field—work every opportunity and work with his head as well as his heels. He will tell you that work is 98% of getting the order and the other vital 2% is in the smile. He claims the smile puts the name on the dotted line, and that reputable merchandise combined with a personality always gets a re-order.

Being a married man, he finds his greatest recreation in his home, with an occasional evening at the "movies."

Mr. Housten's idea of safety first and preparedness is "business first, last, and all the time"—ad infinitum.



# The Importance of Reading Good Books

THE Right Honorable Sir John Lubbock, Bart., M.P., has stated in one of his essays on "The Use of Life," that a great countryman of his, Richard de Bury, Bishop of Durham, writing in praise of books more than five hundred years ago, said: "These are the masters who instruct us without rods and ferules, without hard words and anger, without clothes or money. If you approach them, they are not asleep; if, investigating, you interrogate them, they conceal nothing; if you mistake them, they never grumble; if you are ignorant, they cannot laugh at you. The library of wisdom therefore is more precious than all riches, and nothing that can be wished for is worthy to be compared with it." And then Sir John goes on to say that if he could say this with truth so many years ago, how much more may we do so now. We have only to consider how much better off we are than he was then, both in regard to the advantages of print and also how much cheaper books are to-day than they were in the olden days, and while our books to-day are small and convenient, their books were ponderous, immense, and very inconvenient to hold or read. In de Bury's day the novel was unknown, and as he lived before Shakespeare, Milton, Scott or Byron, to say nothing of more recent authors, he knew nothing of the writings of these authors. In science, chemistry and geology have been created, and indeed the progress of discovery has made all the other sciences, natural history, astronomy, geography, etc., far more interesting.

Sir John then goes on to say: "One of our greatest men of science, Sir John Herschel, has told us that: 'Were I to pray for a taste that should stand me instead under every variety of circumstances, and be a source of happiness and cheerfulness to me during life, and a shield against its ills, however things might go amiss, and the world frown upon me, it would be a taste for reading. Give a man this taste, and the means of gratifying it, and you can hardly fail of making him a happy man. Books are the accumulated treasures of by-gone ages. Lamb used to say that there was more reason for saying grace before a new book, than before a dinner.'

"Books are to mankind what memory is to the individual. They contain the history of our race, the discoveries we have made, the accumulated knowledge and experience of ages; they picture for us the marvels and beauties of Nature, help us in our difficulties, comfort us in sorrow and in suffering, change hours of ennui into moments of delight, store our minds with ideas, fill them with good and happy thoughts, and lift us out of and above ourselves."

"Many of those who have had, as we say, all that this world can give, have yet told us they owed much of their purest happiness to books. If a book does not interest us it does not follow that the fault is in the book. There is a certain art in reading. Passive reading is of very little use. We must try to realize what

we read. No one can read a good and interesting book for an hour without being the better and the happier for it."

This little talk on books and reading brings to our mind the fact that we print and publish quite a number of little books or booklets during the year, relating to the different products made by the Dixon Company, and we have some which we think might interest our great variety of readers, and we should be very glad indeed to send them to any who are interested in what we think should be classed as good books.

Our school department has a Pencil Geography, a little booklet that tells where the materials come from, out of which the Dixon Pencils are made, and also how they are put together and the many steps taken in the process of manufacture. This little booklet is now in its sixth edition and is very popular not only with teachers, but with others as well. This department also has books describing the use and method of handling colored crayons, which are so popular in school work, and they also have booklets relating to pencils and erasers used for drawing as well as the general work of the school room.

The "Philosophy of Protective Paint" is published for those who like to delve deeper into a subject than most of us. It's not all about Dixon's Silica-Graphite Paint and contains something of interest to everyone. Other booklets there are that tell of Dixon's Paint for gas holders, standpipes, smokestacks, etc.

"The Care and Use of Crucibles" has been called the foundryman's manual, so thoroughly does it treat upon the subject. This booklet has helped materially to lessen the abuse of crucibles and to get a more thorough understanding of them.

There are very many things of general interest to write about graphite lubricants and it is the endeavor of the Dixon Company to present them in a most interesting way. One of the most interesting and complete booklets on the subject of automobile lubrication is entitled "Dixon's Graphite Automobile Lubricants." There is a booklet or pamphlet for almost every product manufactured by the Dixon Co. We shall be glad to send any of these booklets free of charge to those who are interested.



No one would think it prudent to put his arm out of a car window where there are a row of telegraph poles, if the train were going fifty miles an hour. He would be a fool to do so, yet few would think it quite as imprudent and foolish for a man to put his arm outside of a hydroplane going fifty miles an hour. Water at fifty miles an hour is not the limpid liquid we are accustomed to bathe in. If you put your arm overboard from a hydroplane running at fifty miles an hour and strike a wave crest, the probability is that you will break your arm or wrist, because at that speed the water has not time to give, not time even to change shape, and striking it is like striking so much metal.



### Pencil Exhibit at Baltimore

THIS photograph is of a show room in the Hotel Renner, Baltimore, Md. The display and decorations are of Dixon Pencils, arranged by the Philadelphia Branch of the Dixon Company, for the convenience of Baltimore stationers and others who are particularly interested in viewing the Dixon line ensemble. The occasion afforded an opportunity for many to become favorably acquainted in a broader way with the supreme products of the Dixon Co., and stimulated a greater interest in a very important part of the stationer's stock. The exhibit accomplished that which could not have been presented so thoroughly by the salesman's sample case.

This is but one of the many attractive hotel exhibits gotten up by the various branches of the Dixon Co.

### Resigned

M R. SHERMAN B. PARIS has resigned from the Advertising Department of the Dixon Company. He leaves us with our very best wishes for his success in his new field.

As a number of letters have been received from trade papers and others addressed to Mr. Paris, which we hesitated to open until we received authority, we ask that all communications relative to business matters be addressed to the

Joseph Dixon Crucible Company,  
Jersey City, N. J.

If these communications are intended for the Advertising Department, please add "Adv. Dept." If for Pencil Department, please add "Pencil Department,"

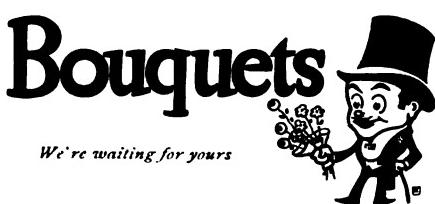
etc. By so doing delays will be avoided; and it is the proper way to do, as it eliminates the person and gets attention promptly.

### Authoritative Opinion

THE noted paint authority, Mr. George B. Heckel, Editor of *Drugs, Paints and Oils*, publishes in the March issue of that well-known journal, Professor Robert S. Perry's lecture entitled, "Inert and Reinforcing Pigments—Their Properties, Use and Misuse."

We quote the following extract because it shows, as we have often claimed, that in many cases Dixon's Silica-Graphite Paint outlasts even the material coated: "Graphite and kaolin are both minerals which, under the microscope, no matter how finely powdered, always present the appearance of finger-nail flakes. They are both very valuable materials in the paint industry. Those who are expert in the art of applying paints ought to know how graphite paint material will last from season to season; how, after fifty or sixty years, when the actual wood or cellulose tissue is decayed, that even then the paint material will stand up above the decayed wood, and it is the last thing that goes. The flaked or natural graphite is mined from the igneous or metamorphic rocks,—those which have suffered from intense heat. In these ancient rocks, which are the backbone of our continent, graphite occurs. It is one of the most ancient of minerals and will last as long as any other paint pigment used by man."

The above reminds us of what we have been told by some florists. Galvanized tags marked with Dixon's Graphite Pencils have, in time, shown that the writing has appeared like raised letters, the metal having been worn away by the action of storms.



"HAVING had the opportunity of reading GRAPHITE for the past couple of years, I begin to miss it now that a copy has not been obtainable for the last couple of months. Will you kindly put me on your mailing list and send me copies in the future?"—D. B. Graham, Roundhouse Foreman, C. & N. W. Ry., Deadwood, S. Dak.

"OCCASIONALLY I see a copy of GRAPHITE here in the office of the Master Mechanic. I am E. & F. time-keeper and have been in the Mechanical Department for about four and a half years. I would be very glad indeed to receive GRAPHITE. I would certainly appreciate your kindness."—J. Hill Campbell, Louisville & Nashville R. R. Co., Office of the Master Mechanic, Etowah, Tenn.

"THE Supervisor of Bridges and Buildings would, I am sure, be pleased to have GRAPHITE sent to him regularly, as I have seen him tilt back in his chair and read it from cover to cover. I want to ask also that GRAPHITE be sent to me, as I enjoy it very much. I also read GRAPHITE before Mr. \_\_\_\_\_ does because I know if he gets it I will not."—Harold Jordan, N. Y., N. H. & H. R. R. Co., Boston, Mass.

"GRAPHITE, that invaluable magazine, reaches this office monthly and I assure you that it is greatly appreciated, eagerly looked for and eagerly read. Please allow it to continue its monthly visits. We get two copies, and I give one of them to our Traveling Engineer, Mr. J. C. Brown, who has told me more than once that he gets many valuable hints from GRAPHITE, especially with regard to the use of Graphite in Locomotive Boilers."—W. G. Kilfoyle, C. Clerk to M. M. St. L. S. W. Ry. Co., Tyler, Texas.

## A Splendid Testimonial

THE protection of metal buildings in our great factory neighborhoods is the most difficult problem for an owner and for the paint manufacturer. Not only are weather and wear to be provided against, but particularly gases, and alkali attacks destroy the paint and attack the metal.

No paint resists all of these attacks as well as Dixon's Silica-Graphite Paint, and we quote the following testimonial covering a ten years' service of Dixon's Paint, received from the St. Marys Wheel & Spoke Company, St. Marys, Ohio:

"We are pleased to advise that Dixon's Silica-Graphite Paint has been used by us for the past fifteen years, and as long as the material continues the same as we have received in the past, there will be no other paint used on the iron work of our buildings."

"Ten years ago the question arose as to whether we would re-side the interior of our building with new iron, as the building was in very bad condition. Upon the writer's suggestion we secured several barrels of Dixon's Paint and coated this building. The iron was worn through in a good many places, caused by the alkalies and gases in this vicinity. A close inspection of this building after ten years' service in this trying climate reveals the fact that the iron to-day is in better condition than it was ten years ago, before it had been coated with your paint."

"We are therefore very much pleased to recommend this Dixon's Silica-Graphite Paint most highly, as we believe fully in endorsing any product that has so honestly served us as Dixon's Paint has."

## Lubrication of Ball Bearings

THROUGH its "Motorist's Column," *Leslie's Weekly* offers some good advice to a correspondent who asks: "Should the ball bearings of my car require lubrication, or is the grease in which they are packed supposed to last indefinitely?" The answer is that "although ball bearings require less lubrication than any other type, nevertheless

the proper kind of oil or light grease cannot hurt them. All bearings are, or should be, packed in oil when the machine leaves the factory; but as this may escape through leakage at various times and as dirt or grit may work its way in, it is well to clean the bearings every year or so and to pack them with fresh graphite grease of a consistency depending upon the size of the bearings." This is excellent advice but leaves one all-important point untouched. There are so-called graphite greases upon the market that are positively injurious to ball and roller bearings. Extreme care should be exercised in the selection of a graphite grease. It is considered by those who have to do with the greatest problems in lubrication that flake graphite is the only form of graphite that is fit for use as a lubricant. The reputation of this form of graphite as a lubricant is the result of constant work of the Dixon Company over a period of many years. The Dixon Company manufactures graphite greases especially adapted to the lubrication of ball and roller bearings.

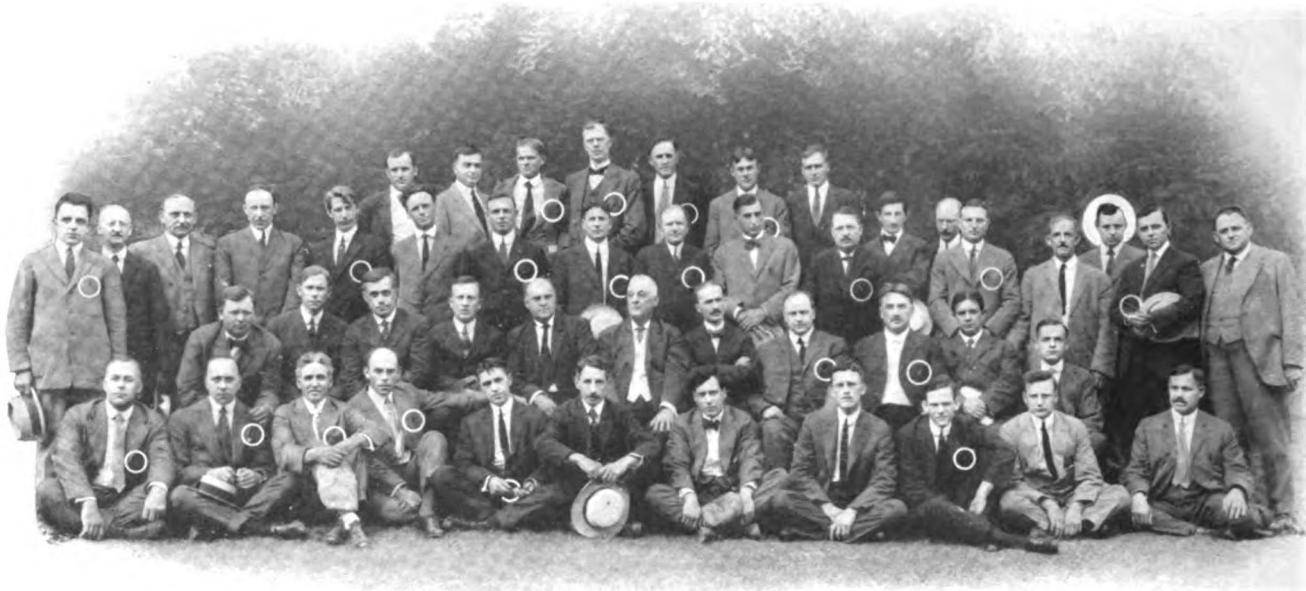
## Recommends Dixon's Boiler Graphite

FOR the past two years I have used Dixon's Boiler Graphite No. 2 with perfect results in Kroc-schell Boilers. The graphite was responsible for removing old scale and I find it prevents the formation of new scale.

I am convinced the boiler is safeguarded from pitting with the thin veneer of graphite. I also find it far more economical than compounds I have previously used.

I have recommended Dixon's Boiler Graphite to my friends and shall continue to do so, knowing they will receive the same amount of good from it as—Seipp Realty Trustees, Per Gus E. Lundquist, Chief Engineer.

"GRAPHITE is a welcome visitor to our office, so please keep a point on your pencil so that you can write our name and address on the wrapper."—W. F. Robertson, Pres. Hampton Roads Paper Co., Norfolk, Va.



THIS is not a picture of Mexican bandits rounded up to be shot at sunrise, but a choice collection of school superintendents from one of the New England States, together with representatives from leading school supply houses, who were gathered partly in the cause of education, and partly because they were interested in the use of good materials in their school work.

The leader of this band, who by the way is a Dixon School Man and therefore naturally tried to keep in the background, is designated by the halo which he is always supposed to carry with him as a means of identification. The rings on many of the bandits (we mean superintendents) indicate the place where they carried the samples of Dixon Pencils which had been provided for their enjoyment.

Those that are not ringed are on probation and look forward anxiously to the time when they can have the honor of ordering and using the Dixon Pencils in their school work.

The predominant feature of this photograph is the look of grim determination that pervades the whole assembly. Each and every man has decided to condemn without mercy the cheap lines of lead pencils and use nothing but Dixon's of good quality in the future.

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A WRITER in the *Havana Post* gives the following as the first verse of a poem that he read in a book of miscellaneous prose and verse about twenty-five years ago, and he would like to know the other verses, or where they can be found.

"Let to-morrow take care of to-morrow:  
Leave the things of the future to fate—  
There's no use to anticipate sorrow,  
Life's troubles come never too late.  
But, if to think ov'r'much be an error,  
It is one that the wise have preferred,  
And how oft our hearts have been in terror  
Of evils that never occurred."

## Read This and Cut Down the Carbon Pest

**Residue from Incomplete Combustion May Be Greatly Reduced**

CARBON is residue from the incomplete combustion of hydrocarbon products. In a gasoline engine these are gasoline and lubricating oil, to which is added a certain amount of silica, which enters the cylinders through the air valve of the carburetor in the form of road dust, and a small quantity of oxide of iron.

The first and most important consideration is the incomplete combustion of gasoline, for from this source the largest proportion of carbon is deposited. When the charge of gasoline and air (the proportions of which are determined by the carburetor adjustment) is taken into the cylinder of a gas engine, it consists of hydrocarbon vapor and air. The oxygen in the air combines with the carbon and hydrogen of the gasoline and forms an explosive mixture. This mixture is fired, and the products of combustion are expelled from the cylinder through the exhaust valve.

If the amount of air entering the carburetor is not sufficient to insure complete combustion, we have what is known as a rich mixture. This is a slow-burning mixture rather than an explosive one and will cause excessive carbon deposit. For example, if the wick of an oil burning lamp is turned too high, too much oil will be slipped through the wick for the amount of air entering the lamp to form complete combustion. The lamp will smoke, and soot, which is carbon, will be deposited on the chimney.

### DEPOSIT THE CARBON

THIS is exactly what happens in the cylinders of a gas engine. The products of incomplete combustion of the gasoline, together with a portion of lubricating oil passing by the piston rings, deposit a certain amount of carbon in the combustion chamber. That portion of this carbon which does not pass out with

the products of combustion is baked on the cylinder heads, pistons and valves by the heat of explosion. This carbon deposit will build up very much more quickly if it has a bed to build up on, such as would be produced by a lubricating oil, which, when exposed to the heat of explosion, would leave a gummy deposit.

Lubricating oil adds materially to carbon deposit of a motor if the following conditions exist:

1—Poorly fitting piston rings or scored piston rings and cylinders.

2—Carrying too high an oil level; using an oil that is not suited to the motor, both as regards body and quality, or carrying the pressure in a force-feed system at too high a point.

3—Allowing the oil in the crank-case or oiling system to deteriorate to the point that it is so thin that even a well-fitting piston ring will not prevent a surplus of oil from passing into the combustion chamber.

A permanent cure for scoring cylinders has been found in the judicious use of a specially prepared flake graphite. This lubricant, known as Dixon's Motor Graphite, is unaffected by any temperature encountered in the cylinder and therefore undergoes no chemical change.

By the introduction of a slight quantity of Motor Graphite, a protective coating is formed on the cylinder walls and piston rings. The small particles of this graphite fill up the minute holes and scorings that exist. This not only lessens the friction but increases the compression. Scoring, cutting, binding then become impossible.

Graphite may be mixed with the oil in the crank case of engines lubricated by the splash system. When the force feed system of oiling is used the graphite should be introduced direct to the combustion chambers through the air intake of the carburetor. A very small amount of graphite is sufficient. Exact instructions will be furnished upon request.

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"UPON the land our country is the envy of the nations. Upon the sea we are the shame of the world. Our flag has practically disappeared from the seas. It is but a memory in most parts of the world. You may make the circuit of all the oceans and not look upon the flag of your country. Seven hundred and fifty million dollars in capital invested in ships (and in foreign shipyards that built them) that carry American commerce! Why is not this vast industry here instead of abroad? Five hundred thousand men are employed in building and operating these ships. They receive \$1,000,000 a day in wages. This should be paid to American labor. To-day we deserve the contempt in which we are held by other countries. We are a blind and strutting fool among the nations. *This is not a party question. It is now a question of national prosperity, of national pride, of national safety and patriotism.*"

—Representative Humphrey of Washington.



**Frederick White Tolfree**

Died April 7, 1916

**I**N large and successful concerns there are always the silent or unknown workers—unknown to the outside world of business and customers, but who are very important cogs in the great producing machine.

Known and beloved by their associates for their character, skill and dependableness, working and planning for the interests of the business, spending their years in faithful service, they at last drop out; their places are filled, yet the influence and the usefulness of their work ever remain.

The Superintendent of the Brass and Rubber Works of the Joseph Dixon Crucible Company belonged to this class. A skilled mechanician, the originator of any number of machines and mechanical devices in connection with the products of his factory, yet withal unostentatious and of retiring disposition, without any bad habits, domestic in his tastes, he leaves an enviable record as a loving son and husband.

Frederick White Tolfree was born in Bloomfield, New Jersey, May 18, 1868, but lived in Belleville, New Jersey, since his first year.

His father, the late Harry Tolfree, and his mother, Hester (née Joralemon), represent by direct descent the pioneer settlers of the State of New Jersey.

After a public school education, Mr. Tolfree became an entered apprentice with Mr. James Hardman, Jr., in the brass and rubber manufactory at Belleville, and in November, 1892, came to the Dixon Company, recommended by Mr. Hardman as being the best machinist he ever trained.

Mr. Tolfree was an exemplary citizen, interested in the development of Belleville, and a prominent holder of improved real estate.

He married Elizabeth Buckhout, August 3, 1910, and is survived by his widow and by his mother, Hester Joralemon.

GRAPHITE pays this slight tribute to his memory because his association of a quarter century endeared him to all who have helped make the Dixon Company the monument it is to-day.

# FROM BEGINNING TO END



is designed to meet the requirements of particular architects, artists, engineers, and draughtsmen who appreciate a drawing pencil containing a lead which has a perfect balance of smoothness, strength, and wearing quality and which makes a rich, sharp, well-defined mark.

Proof? We have on file the following unbiased reports from architects and engineers upon unfinished, unstamped samples of Eldorado, "the master drawing pencil":

1. "*I consider them better than the best pencil we have ever used.*"
2. "*They are equal to any pencil ever on the market of either home or foreign manufacture.*"
3. "*It is an ideal pencil for both field notes and the drawing board.*"

You will render a real service to yourself by buying this "master drawing pencil."

*Write on your letterhead for samples and booklet No. 190-J, to the*

**JOSEPH DIXON CRUCIBLE COMPANY**  
Jersey City, New Jersey

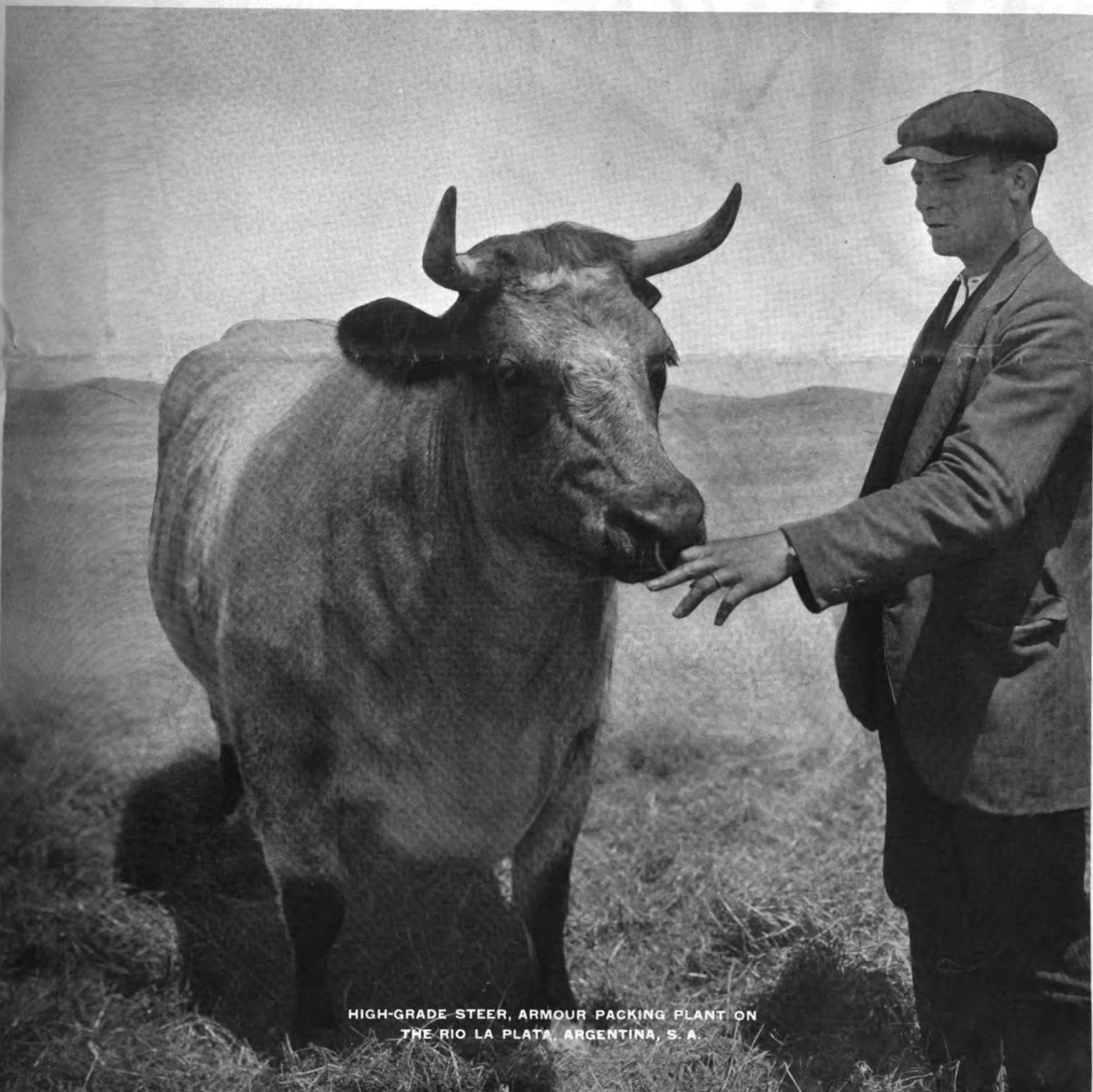
Established 1827

# Graphite

VOL. XVIII

JUNE 1916

No. 6



HIGH-GRADE STEER, ARMOUR PACKING PLANT ON  
THE RIO LA PLATA, ARGENTINA, S. A.

In 1827 Joseph Dixon made the first graphite crucible, and to-day

## DIXON'S GRAPHITE CRUCIBLES

are recognized as standard in brass foundries or wherever aluminum, brass, copper, steel or silver are converted by heat. Made in all shapes and sizes and for all purposes. Send for a free copy of "Crucibles—Their Care and Use." 190-A.

### Joseph Dixon Crucible Company

Jersey City, New Jersey

Established 1827

A-42

# DIXON



## JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED  
1827

Jersey City, N. J., U. S. A.

INCORPORATED  
1868



Miners, Importers and Manufacturers  
of Graphite, Plumbago, Black Lead

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# Graphite



Vol. xviii  
No. 6 ~

June  
1916

## Graphitized Comments

AN artist on the staff of one of the big New York dailies, who was given some samples of Dixon's Eldorado—"the master drawing pencil"—for test, writes us as follows:

"The trial which I have made of pencils was almost as much of a pleasurable surprise as was their receipt. Those which I have used work as smoothly as any I have ever drawn with, and besides thanking you for them, I must congratulate you and the company on such a very satisfactory (from an artistic standpoint) production."

"WE have yours under date of March 29, in which you enclosed sample of your Eldorado Drawing Pencil. We think that this pencil is as good, if not better, than anything we have previously used, and we are ordering a supply of same through Smith's Book Store, this city."—J. S. Andrews, Architect, Designer of Artistic Homes, Miami, Fla.

"With reference to your letter of the 10th regarding Crucibles.

"We have noted your statement that the Crucibles shipped us were of American clay. We are pleased to advise that we are getting very good results from these Crucibles. The Crucibles used in the past, made of German clay, were a little better, but the American clay Crucible is a close second and maybe later on will prove equal to or better than the Crucibles made from imported product.

"HAVING just sold the last of Dixon's Everlasting Axle Grease, will place order for four cases of one pound cans. I have sold this product for some time, and can always sell another can where they have used it before."—Ernest H. Chaufly, Laconia, N. Y.

WHEN it comes to business, the initiative is better than the referendum.

"WE did not telegraph you in regard to our order for Dixon Crucibles as the price which you mentioned is satisfactory. We will send you our orders from time to time and will leave it to you to fill them at the most favorable price."

"WE are sorry to learn that prices have advanced. However, we have always considered, and do now, that Dixon's Crucibles are superior to any other make. Therefore you may fill the order at the prices named."

"THIS is a good time," says *Motor*, "to graphite the (automobile wheel) rims so that they will not rust and hold so tightly that removal is a difficult matter. Good graphite grease or ordinary graphite may be used."

Not "ordinary," esteemed contemporary! Did n't you mean "dry"? And remember "it's all in the flakes."

"WE have your tale of woe about graphite from Ceylon and clay from Germany, but why not go ahead and ship the crucibles? We fully realize you are doing the worst you can, but even at that your crucibles may be better than no crucibles at all."

### Superstitious Speed Kings

WHEN the big automobile racing classics are held all the entrants fight shy of the hoodoo number "13." The old jinx saddled upon poor defenseless "13" has spoiled the chances of making any driver believe success possible with this number. And if some one were forced to drive "Car No. 13" the chances are that he would labor under a handicap, fancied or real.

When it comes to a choice of lubricants there is the same unanimity of opinion, for practically all the fellows who travel neck-and-neck with Father Time use Dixon's Graphite Grease for transmissions and differentials. They can't afford to take chances with friction, and it isn't a case of superstition in this instance, but common sense. This should be proof positive to owners of pleasure or commercial cars, who have been "between Beelzebub and the big pond" on the lubrication problem.

WE are informed by a press correspondent recently returned from the Orient that Dixon's Pencils are used throughout the executive offices of the one-time President-Emperor Yuan Shih-kai of China.

## Crucibles

**T**HE life of the crucible maker is not the halcyon, care-free existence that "foundry folk" possibly have in mind that it is. Leastways it has not been such for many, *many* weary months, which have been mostly dark nights.

The proper clays and the securing of such in sufficient quantities is what has troubled the crucible maker. This, in fact, is "The Crucial Rock" upon which all their hopes and efforts have been wrecked. But at last the sky is clearing. Clays of more satisfactory sorts have been secured, and with their use better results in the foundry will be had and longer-lived crucibles will result.

It rests, however, with the user, in a measure, to improve the present unfortunate state of affairs, and this can be done in the following ways:

Greater care must be given in annealing—more time must be consumed, after the crucible is received, before it is put into service, and smaller crucibles used than those which the foundry has been in the habit of using. In past years all brass rolling mills, crucible steel casters and jobbing shops thought nothing of having six months' or a year's stock of crucibles ahead of their wants—seasoning and drying. To-day, no sooner is a crucible received than it is put into active service.

The native clays now used by the crucible maker have made the crucible more frail and tender than were those made from foreign clays,—more likely to crack on sudden heating and cooling. Therefore, more than ordinary care must be used by the melters in the handling of American clay-made crucibles.

Crucibles should not be cooled down too rapidly, any more than should the heating up be done too quickly. It is a good plan to return the crucible while it is still hot, after the day's work is done, to the furnace, from which, of course, the coal has been dumped. By doing this, the strain in the cooling will not be as severe and the crucible will not crack so early in its life.

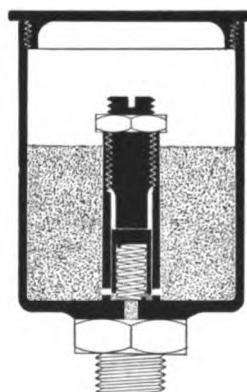
The smaller the crucible is, the greater is the number of heats that can be secured. Therefore, if a crucible of a size or two smaller than what is generally used is adapted, better values and less disappointments will be the results. For instance, if a foundry uses a No. 400 pot, let them adapt a No. 300 or a No. 225—or in a shop where No. 60's are the rule, let it be a No. 45 or a No. 50. In this way both caster and crucible maker will be relieved of the hundreds of annoyances and complaints that for the last few months have made their bed—one of roses, with the petals, buds and flowers all plucked off.

## New Automobile Graphite Lubricator

**A**N instrument for feeding dry Motor Graphite to the cylinders and valves of Automobiles and other Gas Engines has been placed on the market by the Graphite Lubricator Company of 326 Diamond Street, Pittsburgh, Pa.

This Lubricator consists of a chamber which holds about one ounce of graphite and a feeding mechanism composed of a sensitively balanced valve interposed in the feeding port so that the slight pulsations in pressure actuate the valve and allow the graphite to feed through.

The Lubricator is placed on the



main section of the intake manifold between the carburetor and the cylinders. The slight pulsations of pressure in the manifold, due to intake of mixture to the cylinders, operate the balanced valve and cause a small amount of graphite to

be carried to the cylinders with each intake of mixture.

The flakes of Motor Graphite, entering in suspension with the mixture, become attached to the friction surfaces of the cylinders and valves and build up a smooth veneering that reduces the friction to a minimum and protects the metal from wear.

This new Lubricator has been thoroughly tested under various conditions of service and always results in a decided improvement in the performance of the gasoline engine. The fundamental advantages are improved compression, increased power, less fuel and oil consumption and the saving in depreciation and repair expenses.

The Graphite Lubricator Company is now establishing distributing and sales agencies in the principal automobile centers of the United States.

## New Conditions

**E**ACH succeeding year brings new conditions for every business. The concern which does not keep pace with the times, presently must take the dust at the rear end of the procession. Every ten years the personnel of business undergoes material changes. New men are in command. Our relations with their predecessors are not sufficient. We must ever be establishing new relations.

"It was Gladstone's intention to go into Egypt under about the same policy that the United States went into Cuba. The British would straighten things out and then withdraw. But before that time other chiefs were in the saddle and they were not willing to withdraw from Egypt.

"And so it is in business. The new chief makes a change in the policy. It is important, therefore, that we always keep our business keyed up to the demands of the new chief. That's why I say we should personalize our business more than we do, for while we manufacture and deliver merchandise, we deal in and through men."

# What I Know About the Use of Graphite in Boilers

By Frank B. Speace, C. E.

*Cape May City Water Works, Cape May City, N. J.*

Being a consolidation of some remarks contained in a letter to the Dixon Company with an article that appeared in *Practical Engineer*

MY acquaintance with graphite for removing scale from boilers began June 16, 1913, when we purchased a small quantity of a certain make. I did not have much faith in graphite as a scale remover or preventative but concluded to give it an honest trial.

At the close of our busy season, we cleaned the boilers, removing far less scale than usual.

February, 1914, we began using Dixon's Boiler Graphite and for the entire year have not removed over 100 lbs. of scale, this being old scale from parts that could not be reached with tools. No new scale has formed.

December 30, 1914, we had No. 1 Boiler retubed. This boiler was placed in service January 4, 1915, and opened for inspection on February 22d. After carefully washing the boiler, all the scale found could be held in two hands. The tubes, sheets and heads had a perfect coating of graphite even after washing down.

I HAVE read with considerable interest an article, "Do Not Blow Down Boilers," in a recent issue of *Practical Engineer*. He (the writer of the article mentioned) asserts: "That the old method of blowing down boilers is wrong, I can prove to any reader of this publication."

If it is wrong to blow down boilers, why does he find it necessary to blow down B. & W. boilers or any water-tube boilers every day about six seconds, just enough to remove the mud from the mud drum? He admits that the mud is "liable to bake on the two bottom rows of tubes and cause a bulge or blister."

He also says: "In return-tubular boilers you must be more careful."

All this bulging and blistering would occur in over-worked boilers. With this method, in boilers that are not overworked, would not the mud settle just the same, harden and become, in the end, scale, scaly tubes resulting? He "does not allow any of his men to touch the blow-off until the boiler is taken off." Would it not be just as well to keep the mud on the move out, rather than to let it accumulate, with the attending risk of bulge or blister, even though it did cause a little waste of boiler compound? If I were to follow Mr. Bohe's method, I am afraid I should be blowing the company's money "up" instead of away.

I propose to give some of my experience with the plant of which I now am in charge, the Cape May City, N. J., water works, owned and operated by the City of Cape May, for the benefit of its citizens. The chief engineer is in absolute charge of all machinery, boilers, etc.; suggests and advises all purchases; selects coal, oils, boiler compounds, etc.

In taking charge of this works, six years ago, I found two 120-horsepower, return-tubular boilers, with

an accumulation of scale from  $\frac{1}{8}$  to  $\frac{1}{4}$  inch in thickness. I tried boiler compound and scaling tools, using a number of compounds during the six years. The manufacturers of these compounds

advised the blowing down of boilers at least once in every ten hours. Our boilers are in continuous 24-hour service, and are blown down every 12 hours. During the summer season, both boilers are in continuous service for about 95 days, with no spare boiler to cut in, in order that boilers may be cleaned.

In May, 1913, by mere accident, I read an article written by an engineer who had precisely the same trouble with scale that I was having. This engineer had entirely removed the scale from his boilers, and at the time the article was written none was forming. This was produced by the use of boiler graphite.

I immediately made out a requisition for 100 lbs. of the grade of graphite suggested. Upon receiving the graphite, I began using it in both boilers. I was afraid to use according to directions, fearing to precipitate the scale in such quantities as to be dangerous, using only 4 ounces in 24 hours in each boiler, following directions as to blowing down, which were, blow each boiler down once every 12 hours. As stated, the boilers, in summer, are in continuous service for from 90 to 95 days.

We opened No. 2 Boiler 93 days after beginning the use of graphite, and cleaned thoroughly, removing  $25\frac{1}{2}$  lbs. of scale. About a week later, we cleaned No. 1 Boiler, removing 49 lbs. of scale. The tubes and sheets of both boilers have a thin coating of graphite, which prevents new scale from forming.

In 1912, both boilers were in service at the same time of year and about the same number of days. When the boilers were cleaned, we removed from each 350 lbs. of scale.

I am still using graphite. Both boilers are in fine condition, and so pronounced by the inspector of the Hartford Steam Boiler Insurance and Inspection Co. Had I not blown down the boilers twice in 24 hours, what would have been their condition at the close of the summer season?

The following is a brief statement taken from my records:

Saving in coal consumption and coal purchased for the year 1913, 143 tons .....	\$603.50
Saving in coal consumption and coal purchased for the year 1914, 182 tons .....	737.10
Total saving in two years .....	\$1340.60

We now have clean boilers and produce a saving each year, and the firemen have it ever so much easier.

Yours truly,

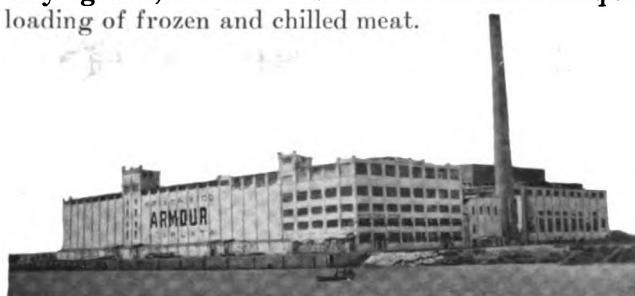
FRANK B. SPEACE, C.E.,  
*Cape May City Water Works, Cape May City, N. J.*

### Armour Packing Plant on the Rio de la Plata, Argentina, S. A.

ONE of the most essential features necessary for the development of American Export Business is the investment of American capital in foreign countries. Among the first of the large investors of American capital in South America is Armour & Company of Chicago, which company, under the name of "Frigorifico Armour de La Plata," has built at La Plata, Argentina, an enormous packing establishment which represents the investment of several million dollars American gold. The capacity of the plant is 1500 cattle, 3000 sheep and 1000 hogs per day, and we illustrate on the front cover of GRAPHITE a specimen of the high-grade cattle killed at the plant.

The plant represents the latest type of packing house, having been the last of this character completed in any part of the world. The buildings are constructed of reinforced concrete and steel, all of them absolutely fireproof and built with the idea of giving the employees plenty of light and air, which of course are necessary requisites to their health and the proper production of the products of the plant.

One of the interesting features of the plant is the dock construction, which is the finest of its kind in the country, being built of solid concrete piling and facing, pointed with quebracho wood posts. The dock will accommodate three large ocean steamers and the necessary lighters, and has all modern facilities for the quick loading of frozen and chilled meat.



While this plant has only been running since July 3, 1915, it has been operating practically full speed from the day of the opening, a record which we understand is unsurpassed in packing house circles. Armour & Company's interests in the Argentine are under the very able management of Mr. H. E. Finney.

The principal business of the Company has been the exporting of meat to the United Kingdom and in a small way to the United States, but the plant is equipped for the manufacture of all the general products of Armour & Company, with the exception of specialties such as soap, ammonia, sandpaper, etc., etc., which products are imported by this Company and sold in the Argentina market.

The plant has all the latest American ideas for the care of the employees, with rest room equipped with piano, shower baths, etc., for the girls employed, and billiard tables, a Victrola and all the necessary comforts for the care of the men at recreation time. There is a fully equipped operating and first aid room, with a reception room attached, all of which is in charge of a thoroughly competent surgeon, with his full staff.

The packing machinery and equipment are all of the latest make from the United States. All the steel work, including oil tanks, petroleum tanks, oleo tanks, rendering tanks, grease tanks, iron window frames, iron on killing floor, structural steel, fire doors, piping, boiler fronts, etc., etc., is painted with Dixon's Silica-Graphite Paint. While at the time of writing this article the paint has only been in active service ten months, the engineer in charge is very well pleased with the results, and will use Dixon's Silica-Graphite Paint as the standard maintenance paint. Most of the iron work is painted with Dixon's Black, and this, in connection with all the white buildings, gives a very attractive appearance. The plant is one of the sights of the Argentine.

### Export Prices

**Higher Prices are Necessarily Charged and Cost of Transportation has Increased Enormously**

THE export situation, so far as Latin America is concerned, is serious with an eye to the future. A growing feeling of bitterness against us is very noticeable. It is due entirely to our failure to meet demands and to the so-called excessive prices which American manufacturers are charging.

United States manufacturers should do all they possibly can to explain to our Latin American friends the reason why prices and costs of transportation are so excessive.

American manufacturers should not hesitate to show that the so-called excessive prices which we are charging are in general warranted and can be justified.

Also that the increased delivered cost—and that is what the buyer figures on—is due largely to the tremendous advance in transportation charges.

The cost of paper, as one item, has advanced from 20 to 50%. The cost of few articles has not advanced at all. The cost of transportation has advanced an average of over 500%, or had about the first of April.

Latin America should be careful to discriminate between those manufacturers who are taking advantage of the situation to make unreasonable profits, and the old reliable manufacturers who are making their prices only in accordance with the great advance of raw materials and the tremendous advance in the cost of transportation.

### Dangerous Form Letters

WE read in *Printers' Ink* that not long ago a passenger wrote a letter of complaint to a Western railroad explaining in detail why he had preferred to sit up all night in a smoking compartment rather than share his berth with a fine line of bedbugs. The letter of apology that he received was so much of an apology and so reasonable an explanation that the gentleman felt perhaps he had been unreasonable in filing his complaint, when he happened to notice his original letter, through error, had been returned with the letter of apology. Looking at it, he saw scrawled across the top this blue-pencil indorsement:

"Send this guy the bedbug letter."



MAIDSTONE APARTMENT HOUSE. SPRUCE ST. NEAR BROAD ST.  
Thomas W. Barlow Owner  
Henry Reinhold, Architect  
J G Doak & Co. General Contractors  
American Bridge Co., Steel Contractors  
700 tons



APARTMENT HOUSE 15th AND LOCUST STS.

Locusi Realty Co. Owners  
Frederick Webber Architect  
Geo. F. Pawling & Co., Steel Contractors  
Belmont Iron Works, Steel Fabricators  
500 tons



KENILWORTH APARTMENTS  
Frederick Webber, Architect  
Cramp & Co., General Contractors  
Keystone Structural Co., Steel Fabricators  
John I. Brand & Company Builders

## PHILADELPHIA APARTMENT HOUSES

We illustrate six apartment houses in Philadelphia, the steel work of which is protected with Dixon's Silica-Graphite Paint for both shop and field coats.

The inscribed names of well-known architects, steel contractors, erectors and general contractors are sufficient guarantee not only of artistic and efficient workmanship but of similar care in choosing the best protective paint procurable.

Philadelphia, like New York City and other cities, is numerously marked with prominent structures where Dixon's Silica-Graphite Paint was specified and used, and the Dixon Company would be glad to send its booklet of notable buildings to those interested in protective paint.

When an owner or architect specifies Dixon's Paint for the steel of his building or for the upkeep of roofs, iron shutters, fire-escapes, tanks, ornamental iron fences, etc., he is sure of the highest grade and best regarded paint; made for over fifty years in FIRST QUALITY only and used in many of the large cities of the world.

Remember the fact that the Dixon Company alone mines Nature's unrivaled combination of flake silica-graphite, a distinctly American product, which affords an unequaled pigment for the long and thorough protection of steel work.



APARTMENT HOUSE. WALNUT AND 17th STS.  
Walnut St. Realty Co., Owners  
Frederick Webber, Architect  
Cramp & Co., General Contractors  
Geo. F. Pawling & Co., Steel Contractors  
Belmont Iron Works, Steel Fabricators  
550 tons



APARTMENT HOUSE. 19th AND WALNUT STS.

Rittenhouse Sq. Realty Co., Owners  
Frederick Webber, Architect  
Geo. F. Pawling & Co., Steel Contractors  
Bethlehem Steel Co., Steel Fabricators  
1350 tons



ALBERT APARTMENT HOUSE. WALNUT AND 22nd STS.  
Clinton & Russell, Architects  
American Bridge Co., Steel Contractors  
375 tons



**First National Bank Building,  
Gastonia, N. C.**

BY courtesy of the *Manufacturers' Record*, Baltimore, Md., we illustrate above the First National Bank Building, Gastonia, N. C.

Dixon's Silica-Graphite Paint was chosen to protect the steel work of this attractive \$150,000 building. The architects were Messrs. Wilson & Sompayrac; the general contractors, Travers-Wood Company; and the steel contractors, Messrs. Barber & Ross.

The fact that Dixon's Paint has been on the market for over fifty years, and has been used and endorsed by architects, engineers, contractors, railroads, etc., commends it more than anything we can say.

The vehicle used is pure, boiled linseed oil. The pigment is one that is only found in the Dixon Company's mines at Ticonderoga—silica-graphite of flake formation. It is a remarkable pigment in that both the graphite and the silica are of flake formation and are about the same specific gravity.

Specify and use Dixon's Silica-Graphite paint, if you are not already a user of it.

◆ ◆ ◆

"It is certain that a department head whose ideas cannot break through the walls of his own department will never shape the larger policies of the business."

## World Problems are Our Problems

THE *Manufacturers' Record* tells us that the most momentous time in all human history in the last nineteen hundred years is that in which we are now living.

All the mighty problems of civilization and government in all ages and all other events since that of Calvary count for but little in comparison with the mighty movements of the day, encircling the world in their influence and power.

The destiny of democracy and of autocracy, the destiny of all nations under the sun, the destiny of civilization, is all being weighed in the balance, and no man on earth, yea, probably not even the angels in heaven, can measure these mighty influences nor forecast their outcome. The Almighty alone can see the final ending of present events.

In this, the great crisis of all history of man-made power and man-made work in government and civilization, this country faces problems as vital as those which to-day are being fought out on the far-flung battle lines of Europe.

The people of this nation need, as they never needed before, to concentrate their thought upon all these problems as they relate to us, and to study these questions in the light of their effect upon our own country.

We need to quicken patriotism as we have never needed to do before.

We need to widen our horizon and get a broad vision of what this country is doing, and of what it must do as it faces the stupendous problems of the hour.

## Another Victory!

DIXON'S GRAPHITE AUTOMOBILE LUBRICANTS were used by all the winners at Sheepscott Bay May 13th.

Rickenbacher won the Metropolitan Trophy Race—Aiken established a new world's record in the Coney Island Cup Race—Mulford won the Queen's Cup.

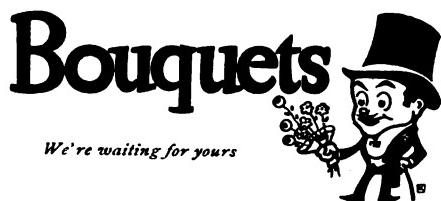
DIXON'S GRAPHITE AUTOMOBILE LUBRICANTS were used by all of these famous drivers, who testify to their superiority.

DIXON'S GRAPHITE AUTOMOBILE LUBRICANTS eliminate friction and minimize wear by preventing metal-to-metal contact between moving surfaces.

Used with equal success by owners of pleasure and commercial cars.

## What a Salesman Can Do

NOTHING on earth can smile but man. Gems may flash reflected light, but what is a diamond flash compared to an eye-flash and a mirth-flash? Flowers cannot smile; this is a charm that even they cannot claim. It is the prerogative of man; it is the color which love wears, and cheerfulness and joy—these three. It is a light in the windows of the face, by which the heart signifies it is at home and waiting. A face that cannot smile is like a bud that cannot blossom, and dries upon the stock. Laughter is day, and sobriety is night, and a smile is the twilight that hovers gently between both—more bewitching than either."—Henry Ward Beecher.



"WE read GRAPHITE thoroughly, and believe that its constant reading has much to do with our custom of specifying Dixon's Graphite Paint on nearly all occasions. GRAPHITE is the best house organ we receive."

—F. H. Shaw, Consulting Engineer, Lancaster, Pa.

"ON behalf of the Mining Association of the University of California, I wish to thank you for your courtesy in sending GRAPHITE during the past year to our Mining Association Library, where it will always be read and appreciated."—Dan Reichel, Librarian, Mining Association, University of California.

"PLEASE change my address on your mailing list. I don't want to miss any issues of GRAPHITE."—F. W. Brenchley, 100 Brook Ave., Carbondale, Pa.

"THE writer has been interested in reading the issues of GRAPHITE which occasionally drift over his desk."—E. W. DAGGETT, Correspondence Clerk, Machinery Division, Office of the Commandant, Navy Yard, Mare Island, Vallejo, Calif.

"I FIND in GRAPHITE, which comes to my desk each month, much of interest. My current copy has been mislaid by some one, hence my request for another copy."—Fred E. Browne, Supervisor of Manual Training Public Schools, Manchester, N. H.

"WE have just received our GRAPHITE and find it as interesting as ever. Some of our classes are studying the subject of graphite, and for that reason I would ask you to please send about one dozen more copies this month."—George E. St. Thomas, Boys' Industrial School, Newark, N. J.

## South America

LEAVING out much that *Machinery* for February said in its article, "How to Go after South American Trade," the following may be taken to heart by American manufacturers who have in the past left a splendid trade with South America to England and Germany. We quote:

"The time is not so far distant when, if South America was mentioned, we immediately had in our mind a confused picture of tropical jungles, boa constrictors, yellow fever and revolutions; but the time for all of this is passed. All now know more or less about Rio de Janeiro and Buenos Aires, although how many who have not actually traveled south can give the names of two other cities in either Brazil or the Argentine, not to say anything about the other countries concerning which we know almost nothing? In fact, it is a safe wager that in the majority of offices there is not one who can, without previous thought, make a complete list of the South American countries; or with the list furnished them, can write down the capital cities only. I have tried this several times and the results are amusing, even among a well posted staff. In one case I asked a mechanical engineer, who is a graduate of one of our largest eastern universities, what he estimated the population of Buenos Aires to be. After making some excuse for his lack of knowledge, he made what he called a rough guess, placing it at 20,000. When one remembers that it is well above 1,250,000, the extent of his knowledge can be appreciated."

We are in control of the situation to-day, but we have got to fight to hold much after the war unless something is done.

We need to spend a lot of money to handle the work in a broad and liberal way. We need the coöperation of the press in Latin America. We need to meet Latin America more than half way, for it will mean better business and better friendship later on. We must show Latin America that we are truly friendly and not simply venders of goods.

NEW CASTLE, DEL.,  
April 29, 1916.

Joseph Dixon Crucible Co.,  
Jersey City, N. J.

Gentlemen:

Your very kind letter of the 26th inst. in reply to our letter to you of the 25th is at hand and noted. We are pleased and delighted to note that you will do everything within reason and your power to see that we are taken care of in your line of Crucibles. We knew you would do this, gentlemen, but we wanted to get a little closer to you through correspondence that has lately been neglected.

I have requested our Purchasing Department to forward to you at once a requisition for 500 Crucibles, same to be delivered just as soon as you can, but not before you are ready to do so,—however, within the next two months or ten weeks; and we will follow this requisition with another one at least two months or ten weeks before we will be in need of the Crucibles, giving you the time that you have requested to prepare yourself for making the shipment to us.

None of us know, nor can we prophesy when this "terrible war" is going to be over, or how soon we may enter into a more grave situation than we are in at the present time; but we earnestly hope that the skies will clear for all of God's people at the earliest possible moment and let us have peace and a lasting peace among all the people. Then we would not have to conjure over in our minds how we are going to take care of our neighbor, but one neighbor would be helping to take care of the other and the problems that confront us to-day that seem so difficult will have been entirely obliterated.

I wish to impress upon you how much we appreciate your real kindness in this matter of Crucibles, and further to assure you if there is anything in the future that you would like to call upon us for, that we stand ready to serve you and it will be a pleasure to do so.

With very best wishes,  
Most sincerely yours,  
WALTER BRINTON,  
Manager.  
AMERICAN MANGANESE STEEL Co.

## Dixonites Who Pencilize the Country

*This is the ninth of a series of articles featuring Dixon's Pencil Salesmen*



Charles E. Wehn

IT was in 1910 that Mr. C. E. Wehn entered the employ of the Joseph Dixon Crucible Company. He was attached to the San Francisco Branch as a missionary in the Pencil Department.

Now, when we say "missionary" please do not misunderstand us, for a "pencil missionary" is a gentleman who visits the business offices and other institutions

that use "*any old*" pencils and converts them into users of Dixon's Pencils.

Well, Charlie Wehn developed such facility in demonstrating the genuine qualities of Dixon's Pencils that it was only a very short time before he blossomed out as a full-fledged Dixon salesman. He "covers" Southern California, Arizona, Nevada and New Mexico and has built up and handles a very large trade. Now, Mr. Wehn devotes a large part of his time to the interests of Dixon's Pencils, Crayons, Erasers among the public and private schools.

Because of his personality and enthusiasm he is mighty popular at all the Educational Conventions and is well thought of in educational circles generally throughout his field of operations.

Mr. Wehn has been equally successful in handling the commercial stationery trade in Los Angeles, San Francisco and various other towns on the Pacific Coast.

In handling difficult and acute selling situations, Mr. Wehn shows his real worth and he usually comes through with a number of new friends (to be added to his large list of old ones).

As essential to successful salesmanship Mr. Wehn pins his faith to stick-to-it-iveness, excellent goods and friends, coupled with eternal enthusiasm.

If anyone desires an argument just let him try and say something unfavorable to Mr. Wehn about Dixon's Eldorado, "the master drawing pencil," or Dixon's Anglo-Saxon, "the peerless rubber tipped pencil." His faith in these and the other Dixon styles is contagious, and this alone is responsible for many orders.



SPEAKING of Pencil Salesmen who have Dixonized the country, you should know that they are confronted with all sorts of perplexing problems which they are expected to solve offhand without betraying the mental gymnastics required.

One of these bright young men tells how the other day a buyer for a large wholesale house, which buys in quantities, handed him a bank-note and said:

"Send me some one cent pencils; three-fourths as many two cent pencils as one's; three-fourths as many five cent pencils as two's and four ten cent pencils for the balance of the money."

Can you tell the denomination of the bank-note and quantity of each kind of pencil ordered?

Of course the salesman did not bat an eye, but wrote out the order without having to do any figuring. If you will send us the correct answer, even though it may be necessary to use pencil and paper, you will get one of Dixon's Anglo-Saxon Pencils No. 2 by return mail.

### Personal

JOHN M. READY, the Manager of our New York office, was delighted to receive a call from Mr. F. C. Bazley, Vice-President of George A. Drake & Co., Detroit, Mich.

### Bullets to Mark With

IF there are any readers of GRAPHITE old enough to remember the old time "lead plummet" which was used in the early days instead of lead pencils, then the following will be appreciated. An inquiry came to Rust, Parker Company, Wholesale Grocers, Duluth, Minn., from Camp Crook, S. D., which is situated 40 miles from the nearest railroad. It was as follows:

"Send us some pencils, we are all out and none in town. Have to sharpen bullets to write with."

### Another New Booklet

EVERY time that GRAPHITE goes to press the Lubricating Department seems to have another one of those mighty interesting little booklets that treat one subject so thoroughly. This month the little "house organ" of the Lubricating Department is "Graphite for Cylinder Lubrication."

This booklet tells the "why" and the "how" of cylinder lubrication for steam engines, air compressors, gas engines, locomotives and marine engines.

The most interesting articles in this brand new little booklet are testimonials showing that by using graphite in cylinders, concerns have been able to reduce their lubricating costs more than 50%.

This booklet will be sent to anybody requesting a copy. Write for it.

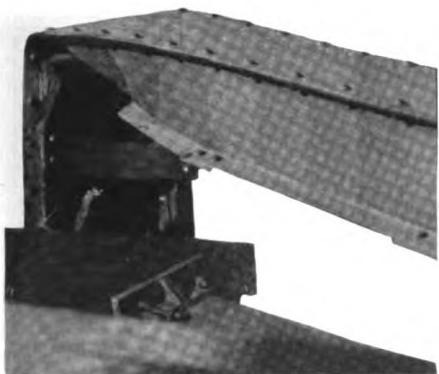
### Dixon Week

JUNE 3rd to June 10th is DIXON WEEK in the automobile trade. From the Atlantic to the Pacific dealers' windows will display

### DIXON'S GRAPHITE AUTOMOBILE LUBRICANTS

and call attention to their truly wonderful qualities.

## Rust Causes Bridge to Fall



THE illustrations show the result of neglect to paint a highway bridge in Pennsylvania. The metal rusted away chiefly on the hidden side and suddenly the bridge buckled and collapsed without warning, falling into the river.

Dixon's Silica-Graphite Paint is a life-saver, because it can be positively relied upon to protect bridges efficiently from insidious rust decay, for longer periods than any other paint. This is why it is used and specified by leading railroads of the United States and abroad as a standard maintenance and construction paint.

"Safety First" in paint protection of bridges can mean no other than Dixon's Silica-Graphite Paint.



## Some Science

WE are told that a real professor can make a lubricant of potato peels, horse grease, corn oil, watermelon rinds, three onions and a dash of cayenne pepper. After evaporating over a slow fire we are told that the result is a near lubricant or auto oil that will stand a pressure of 89 foot tons per square inch at 99 R.P.M., and when this near lubricant is placed in a dark black bottle and placed by the side of a bottle of Dixon's Graphite Lubricant, you can't tell the difference.

It may be well said that there are several other lubricants on the market that when placed in a dark black bottle alongside of Dixon's Automobile Lubricants not even an expert or professor can tell the difference.

But,—well, that's another story which you may learn if you send for our pamphlet on automobile lubricants.

## The Personal Equation in Business

M R. PAUL SCHULZE, President of the Schulze Baking Company, Chicago, has an article in *Printers' Ink* in which he tells us "When Business Personality Becomes an Asset." He tells us that the claims of quality in the product are reinforced by the character and size of the organization back of it.

He tells us that thousands of dollars' worth of goods are sold on personality every day in the year.

He tells us that one may theorize to his heart's content concerning the unwisdom of such a condition, but the probabilities are that it will persist so long as business is conducted through the medium of human relationships.

He tells us that people will buy from concerns in which they have confidence, and will refuse to respond to the appeal of those whom they distrust.

He tells us that many a sale is clinched simply because a certain concern is a good one to do business with, and another is not.

He tells us that oftentimes there are no definite and logical reasons which can be given—it is simply a matter of confidence or the lack of it.

He tells us that the personality of a man, or of a business, is expressed in a thousand different ways which may have little or nothing to do with the intrinsic merits of the goods.

He tells us so much that is worth the reading, that we suggest that it may be worth the while of every manufacturer and business man to get a copy of *Printers' Ink*, issue of May 4th, and read what Mr. Schulze has to say.

## Paint for Portable Metal Garages

THE metal garage is practically a new and satisfactory provision for an entirely new problem. Its convenience and its popularity are unequaled. It also solves the insurance and fire problems. It distinctively is the average man's garage, because it occupies small room and he can move it. In other words, the garage is tied to him instead of he being tied down to one residence by his garage. The paint problem also is not an easy one but it has likewise been solved.

The Joseph Dixon Crucible Company of Jersey City, N. J., make a specialty of protective paint suitable for metal garages, and for that matter, wooden garages. Their silica-graphite paint, made of an unequaled American pigment in four colors, has been manufactured by them for over fifty years, and is used world-wide. It is very popular for use on metal garages.

The method of application is as follows: Wash the galvanized iron or metal work (if it is new) in a solution of sal-soda, commonly known as washing soda, so as to clean off shop grease, etc. Then paint the structure with three coats of Dixon's Paint, if it is new.

If, however, the metal has been previously painted, scrape off blisters and loose scale. Then apply two coats of Dixon's Paint. Use different colors so as to be sure the coats are uniformly applied to the whole surface.

This is a wonderful long service paint, the Dixon Company having thousands of records of from five to fifteen years on all kinds of metal surface.

## Well Pleased with Dixon's Boiler Graphite

"PLEASE ship us immediately a one-hundred-pound keg of Dixon's No. 2 Boiler Graphite. The sample shipment which we purchased seems to be doing good work and we are well pleased with the results."—C. E. Williams, Mgr., Hays City Milling and Elevator Company, Hays City, Kans.



## The First Line of Defense

against the attacks of boiler scale. Scale is the worst enemy of the boiler plant, large or small. The attacks of this troublesome and persistent foe are easily repulsed when your boilers are protected by

## Dixon's Flake Boiler Graphite

the "Pioneer." ¶ Its action is purely mechanical; gentle yet effective. By mixing with scale during its formation, the latter is rendered soft and friable and can be readily removed. ¶ Your boilers will then steam freely and cleaning becomes a matter of hours instead of days. ¶ This is one of the distinguishing features of FLAKE boiler graphite as prepared by the Dixon Company.

*The subject is covered in detail in Booklet  
No. 190-T, "Graphite for the Boiler."*

**JOSEPH DIXON CRUCIBLE COMPANY**  
Jersey City, New Jersey



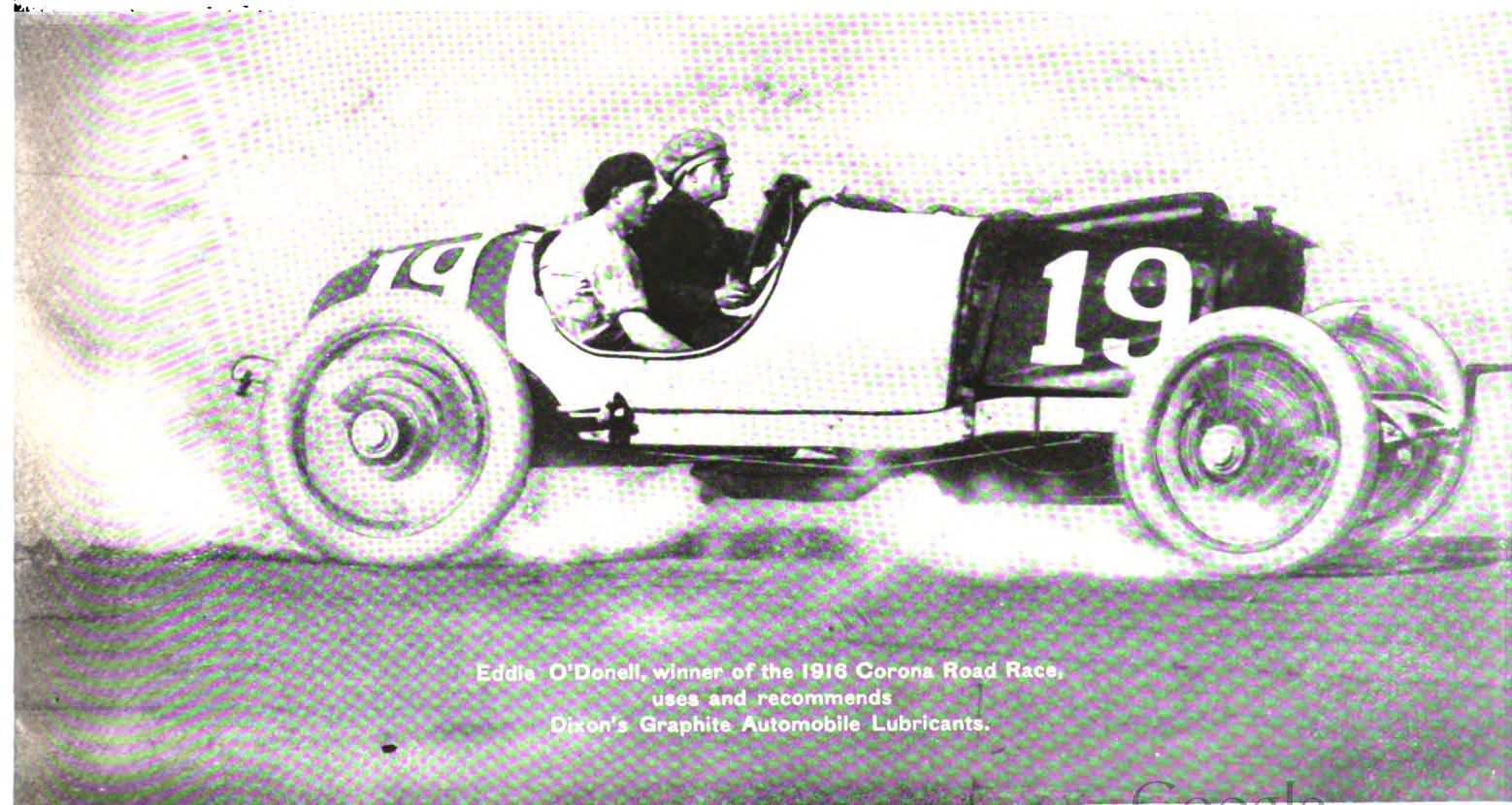
Established 1827

# Graphite

VOL. XVIII

JULY, 1916

No. 7



Eddie O'Donell, winner of the 1916 Corona Road Race,  
uses and recommends  
Dixon's Graphite Automobile Lubricants.

# DIXON

A word to the wise is sufficient, or ought to be—and a word from the wise ought to be proof-conclusive.

¶ One of the largest users of Crucibles in this country writes: "We have always considered, and do now, that Dixon's Crucibles are superior to others." ¶ Eighty-nine years of Crucible-making insures our customers the very best in the industry. ¶ Send for booklet No. 190-A.

Made in Jersey City, N. J., by the  
**Joseph Dixon Crucible Co.**  
 Established 1827



A-45

## JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED  
1827

Jersey City, N. J., U. S. A.

INCORPORATED  
1868



*Miners, Importers and Manufacturers  
of Graphite, Plumbago, Black Lead*



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# Graphitized Comments

## A Few Paragraphs of General Interest

THOSE who receive GRAPHITE are requested to send in any change of address at the earliest opportunity. It will be more convenient in making up the mailing list if the new address is written on the envelope in which the magazine is received.

As a rule, all horses are second-hand—some one has had that horse before—and no one with experience in buying horses fails to examine the teeth of the horse offered him. Automobiles, like horses, have teeth, and no one about to buy a second-hand automobile should fail to examine the teeth of the gears that do the drawing of the several parts—especially the transmission gears. Badly worn teeth, whether in the horse or in the automobile, show age or abuse.

The best preservative of teeth in an automobile is Dixon's Graphite Grease No. 677. It preserves the teeth by reducing friction, and by reducing friction you prevent wear and increase power, speed and comfort.

NOT long ago a repair man for one of the larger time clock companies dropped into our New York store. He wanted Graphite Grease No. 677, adding that there was not a repair man connected with their New England office that considered a kit was complete without No. 677.

In the conversation, the strongest argument that was brought forth was the fact that No. 677 stays where it is put and never evaporates or gums in the way oil or grease alone will.

There are several places in a time clock, especially in the recording mechanism, where Dixon's Graphite Greases can be used to advantage; the bell and impression hammers work under a great deal of pressure—the ribbon shift and spindles have to work smoothly, the type wheels must respond to the movement of the more delicate clock mechanism and also stand the shock of the impression hammer. The mainspring must not stick for a second. These are all parts on which Dixon's Graphite Grease No. 677 can be used to good advantage.

In setting up a new clock, and starting it off on its mission of time recording, a great deal of bother would be saved all concerned if the recording mechanism were given a thorough application of Graphite Grease No. 677. The makers would not have to send their repair men out so often—the plant managers would not have arguments about lateness with their employees, while the clock is being repaired.

This is just another case where Dixon's Graphite Grease is in time, bringing it up to perfection.

WE have the following from Mr. E. H. Sweeley, inventor of the Sweeley Graphite Lubricator, as described in the December issue of GRAPHITE:

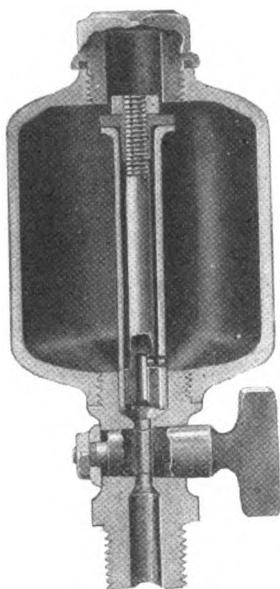
"One of the interesting tests that we are now running with Sweeley Locomotive Graphite Lubricators is a locomotive on one of the large eastern systems in very hard service. The Sweeley Lubricator is under test on one side only, while the other side of engine is working with ordinary oil lubrication.

"An interview recently with the locomotive engineer running this engine developed the fact that the engineer himself is so much in favor of the device that he stated he would be willing to buy the graphite himself if they would equip his engine on the other side with another Sweeley Lubricator."

WHILE it is said there are a thousand and one uses for graphite, it would seem to be rather new to use Dixon's Motor Graphite for the prevention of sunburn. Burnt cork is used in Alaska for the prevention of sunburn caused by the fierce glare of the sun on the snow. It is said that Dixon's powdered graphite is equally good and there would seem to be no reason to the contrary.

DIXON CRUCIBLES are the most satisfactory product the raw material market will at present permit.

# Cronger Graphite Feeder



THE Cronger Co. of Johnstown, Pa., is placing on the market a line of graphite feeders for automobiles and steam engines. These feeders were developed by two engineers with a large steel plant in Johnstown, and are being placed on the market because of the wonderful performance on the rolling mill engines in their charge. The originators of the Cronger feeders have, during the past six years, developed the use of graphite for cylinder lubrication to an extent probably not equaled in any other industrial plant.

Several interesting facts have been established through the development of the Cronger feeders. It has been clearly proven that flake graphite floated into a cylinder in its dry state has no tendency to pack or build up on itself in the piston grooves or on the head surfaces. It has also been established that flake graphite is preferable to amorphous graphite for cylinder lubrication, as the flakes apparently cling better to the cylinder walls. It has been shown that graphite is equally as efficient in cylinders using wet steam as where high superheated steam is used.

Exhaustive experiments were made to determine the correct proportions of oil and graphite in various units, which showed that .75 of an oz. of graphite and 3 oz. (based on  $7\frac{1}{2}$  lbs. per gal.) of cylinder oil per million square ft. of cylinder surface wiped, provides ample lubrication, and that these amounts are alike suitable in saturated and superheated steam.

Reduced cylinder wear was evidenced by the following record of rings changed: Nov. 17, 1912, two rings; Aug. 2, 1913, two rings; Oct. 4, 1913, one ring; Jan. 2, 1914, two rings. No rings have been replaced since Jan. 2, 1914, and the rings after two years' service appear good for at least two more years. Graphite has been used continuously since Jan., 1914.

Metallic packings are markedly benefited by the use of graphite and rod scoring is eliminated.

Corliss valves operate with surprising smoothness after a few hours' operation with graphite applied.

It has been shown beyond all doubt that oil can be reduced in quality and quantity where graphite is used. A notable example is a  $44 \times 48$  Porter Allen engine at 90 R.P.M. which now is running 24 hours per day on one quart of 16c. oil and 8 oz. of graphite as against 2 gals. of 38c. oil. Cost now is 14c. as compared with the former cost of 76c., saving  $81\frac{1}{2}\%$ .

Graphite floated into internal combustion motors, either stationary or automobile, is most beneficial, but it must be remembered that a surplus of graphite is liable to foul the spark plugs. The Cronger auto feeder affords a range of adjustment which enables motor operators to feed a finely regulated amount of selected flake graphite continuously, with the result that no accumulation in the cylinders is possible. Cylinders will remain freer from carbon and the compression will be increased wonderfully. Danger of scoring is eliminated and after using graphite the increase in mileage per gallon of gasoline and oil will be surprising.

Cronger feeders are admirably suited for locomotive use, particularly on superheated locomotives,

where, aside from saving in oil cost, the saving in cylinder and piston wear will be pronounced.

Users of high temperature steam are cautioned against the use of too much graphite and against the use of highly compounded oils. A lower flash filtered oil is preferable to highly compounded oil, and only enough should be used to insure an oily film on the surfaces which will hold the graphite flakes.

Savings in total lubricating costs have been as high as 78%, but the Cronger engineers are averse to extravagant claims, preferring to place the average saving at 35 to 40%, which at present oil prices means considerable even to the small consumer.

**"Much good work is spoiled for the lack of a little more."**

**"If working days are to be reduced to eight hours we must make it up in some way or we will suffer in the commercial clash bound to come after the war, when foreign nations, lean and hungry for business and trained to the moment and with their labor as their chief asset, enter the commercial field against the United States. If labor is to have less hours it must prove itself more effective, else employed and employer will fall together."**

## Our Cover Picture

Was Taken at the Corona Road Race,  
Corona, California

**E**DDIE O'DONELL'S rise to prominence in the automobile racing field has been as rapid as the clip at which he reels off the miles in the big races. Eddie walked off with the victor's laurels in eight out of the nine races on the Pacific Coast in which he was entered during the past winter. Quite a creditable showing is that.

O'Donell used Dixon's Graphite Automobile Lubricants and thereby fought shy of friction. If he had developed friction trouble in any part of his car during any of these races, his string of victories would have been curtailed. Dixon's Lubricants' performances were as noteworthy as those of the popular driver.

# Places Where Dixon's Flake Graphite is Used or Should be Every Day

A CAN of  
Dixon's  
Flake

Graphite should be one of the most common supplies in the ordinary engine room. It should be as necessary as the engine and cylinder oil and the supply on hand should be watched as carefully as the oil.

If the operating engineers form the graphite habit they will find that it will be just as hard to get along without the graphite as to attempt to operate without cylinder oil.

Aside from its chief use as a lubricant for cylinders and main bearings here are just a few of the many uses and places where graphite may be used to advantage in every-day work.

For pipe work of all kinds, whether steam, water or ammonia, a coating of graphite and cylinder oil on the threads will insure a tight joint and also one that can be taken apart without cracking the fitting or splitting the pipe.

To make a proper joint the threads are the thing that should do the holding and not some kind of dope which is at the best but a makeshift.

Litharge and glycerine is used extensively in the erection of ammonia piping. It has taken the place of the soldered or sweat joint in a great many places. With either the soldered or the litharge joint too much dependence is put on the holding power of the solder or of the litharge.

A fitting properly put on a pipe with graphite as a lubricant (instead of something to cement up the irregularities of the threads as is the case with dope) will be found to give the service desired. The graphite allows for the fitting to be screwed on the farthest and easiest. Any other dope or cement has a binding effect caused by friction.

From experience I know that ammonia work can be put up with graphite and oil and such work will stand the test and leaks do not develop after a short time of service. Slight vibration will crack and grind out litharge. The excessive heat of compression found in ammonia discharge lines will melt out the solder used in sweat work. But when a joint is once screwed up tight with graphite and oil, it is good for all time, as the pipe and fitting are really and truly iron to iron and not separated by some sort of dope. But with even the tightest pulled up joint enough graphite is left on the threads to make disconnecting easy. The lubricating power of the graphite is still there after years of service.

If a graphite joint is entirely tight and therefore satisfactory, why should the time and expense of other joints be resorted to?

A fair and common example of the good which graphite does is found where box unions are used. A light coat of graphite on the threads and the union can be taken apart at any time, whereas if graphite is not used the union will stick and will most likely be ruined by hammering before it can be loosened.

Whenever a new valve with a screwed bonnet is to be used, it should just be taken apart and the threads of

the bonnet given a coat of graphite.

This is almost necessary if removal of the bonnet is to be possible after a period of service. This small precaution will save the appearance of the valve, for if it sticks the use of a large pipe wrench will be necessary to remove the bonnet and the brass will be chewed up. Wherever brass pipe or fittings are used the continued nice-looking appearance is maintained if graphite is put on all threads.

All flange bolts treated to graphite will allow for their being pulled up tight and for their removal without the use of a chisel or hack saw.

Gaskets of all kinds and in all places can be used over and over again if a little graphite is put on their surface.

For use around water tube boilers graphite has no equal. For such boilers where the hand hole plates are ground joints, a little graphite on the surfaces will be a great benefit. The gaskets used on such hand hole plates as are not ground joints must be treated with graphite to make their removal anything like an easy job.

For piston rods of engines and pumps the use of a little graphite a couple of times a day will keep the packing soft and increase its lasting power and reduce the friction. A small can of graphite and cylinder oil and a small paint brush should be found on the oil stand of all engine rooms. Its presence should be considered just as important as the oil cans.

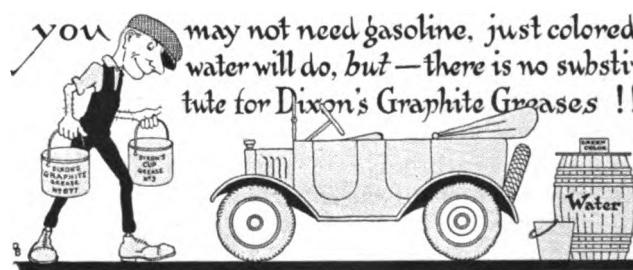
These are just a few of the many uses for flake graphite, but enough to show that the gain is great where the graphite habit is formed.—A. G. Solomon.

## An Error

THE illustrations used on page 4039 of the June issue of GRAPHITE under the heading of "Rust Causes Bridges to Fall" were obtained through the courtesy of the *Pennsylvania Highway News* of Philadelphia.



ONE firm and fast friend of Dixon's Graphite Automobile Lubricants, Mr. Ople Beall of Cliffside, N. J., had a spare moment, so he made the sketch below and sent it to us. There is a heap of truth in this sketch.





**Standpipe, Boothbay Harbor, Maine**  
Nine Years' Service

**T**HIS structure has recently been repainted with Dixon's Silica-Graphite Paint. It was last painted nine years ago, also with Dixon's Paint. This is a remarkable service because the conditions are severe in that section of the country, namely, dampness, ice, sleet, and the salt air for which Boothbay Harbor is famous throughout the year.

Dixon's Silica-Graphite Paint, on account of its longer service, is popular with water companies all over the world. We should be glad to correspond with prospective users on the subject.

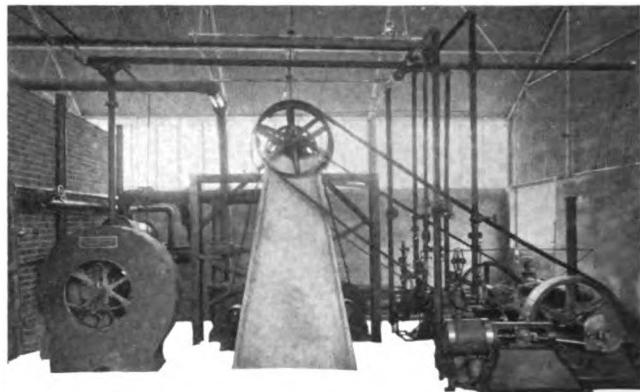
The standpipe is a prominent landmark for many yachts and vessels entering the harbor.

#### She Wanted It That Way

**O**NE of Dixon's bright young men, while working up the automobile trade in a certain city, stepped off a trolley car directly in front of an automobile which had been brought to a quick stop by its fair driver at the heels of the same trolley, in obeyance of the ordinance which directs autos to stop for halted trolley cars at regular stops.

The Dixon man noticed that the door of the tonneau of the young lady's car was open, and as it was on the side which would be most likely to brush traffic in a busy street, he casually motioned with his hand toward the open door, at the same time remarking politely: "The door of your car, madam, is open." "That's the way I want it," she snapped, and looked straight ahead.

#### Attention! Florists

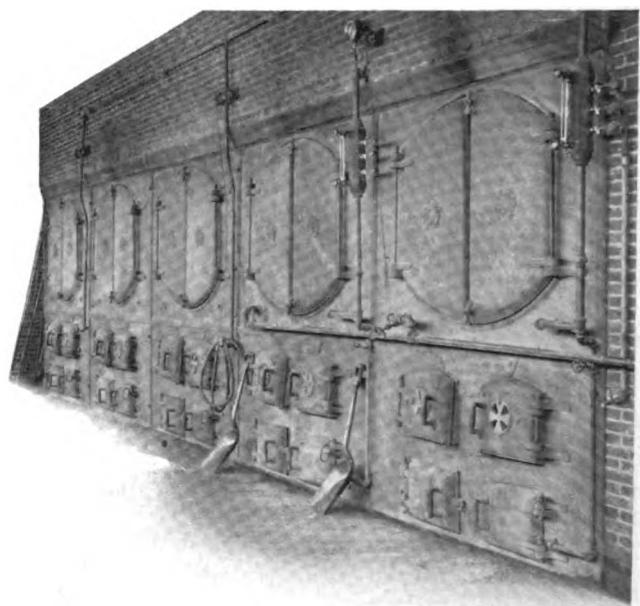


**T**HE photographs above and below show the engine room and boiler fronts of the greenhouse plant of Henry A. Dreer, Inc., at Riverton, N. J.

The Dreer Company uses Dixon's Silica-Graphite Paint on their steam-heating pipes, boiler fronts, etc. This is an eminent reason why other florists should do likewise, if they would achieve the highest satisfaction at the lowest yearly cost during the longer service of Dixon's Paint both on metal and wood surfaces.

Dixon's Silica-Graphite Paint is very popular with florists because it resists dampness, heat, contraction, etc., better than any other paint, and moreover is non-poisonous to the most delicate flowers.

Florists and greenhouse superintendents, be sure to order Dixon's Silica-Graphite Paint, either direct from the Dixon Company, or through your local dealer.



# Lubrication

**M**R. JOSEPH W. FRO-

**Mineral Oils of Asphaltic Base and Mineral Oils of Paraffin Base. The Uncertainty of Oil Lubrication**

MEYER of St. Louis, Mo., writing in *Power*, makes a few suggestions on lubrication. He tells us that modern equipment, such as high-pressure compound condensing reciprocating engines, air compressors, also eight and twelve cylinder automobile engines, require the best oil obtainable; any other kind retards smooth operation. Some engineers admit that their engines are better judges of good oil than they are. This is due perhaps to the fact that the present standard of oil analysis needs revision. Mr. Fromeyer said that oils varying in chemical and physical properties render selection difficult. Few buyers are able to differentiate between the good and the bad. The Independent Petroleum Marketers' Association, recognizing this deficiency, selected a committee of experts about two years ago to investigate this situation, but so far no report has been made, nor has any new standard been adopted.

Most of the crude oil produced in this country, or about seventy-six per cent., according to Mr. Fromeyer, is of asphaltic base and of low market price. The other twenty-four per cent. is of paraffin base, ranking very high; in some instances a premium is paid for it. It is the difference between the two that puzzles many engineers. When the asphaltic-base oil is used under modern high-pressure conditions, the asphalt condenses at its critical temperature. This deposit may be found in cylinders, packing rings and piston rods, accumulating until sheared off, and unfortunately this deposit is often erroneously mistaken as a deposit of graphite by those who have used graphite as a lubricant.

No user of Dixon's Flake Graphite need have the slightest fear of graphite liquefying or volatilizing at engine temperatures. It will withstand a heat that would readily melt the engine itself. It is the asphalt in the asphaltic-base oils that makes all of the trouble which is sometimes laid to graphite.

Every driver of a racing automobile knows the value of Dixon's Flake Graphite and uses it, and is well aware that as an addition to his lubricating oil it is absolutely indispensable for smooth, cool running bearings.

Mr. Fromeyer tells us further that the paraffin-base oil, mainly from Pennsylvania, has the reputation of being the most reliable oil found anywhere. It is becoming scarcer every year. During 1914 the production in Pennsylvania fell off 963,282 barrels. If the same ratio continues, in about eight years it will cease.

The widely used red engine oil, being of an asphalt base, wears rapidly. It disintegrates after being fed to the bearings a few times and causes abrasion.

The engineer or the driver of an automobile who will make use of Dixon's Flake Graphite will find that the graphite coats the bearings with a veneer-like surface which is of marvelous smoothness and endurance, and which supplements in the best possible manner the value of even the best paraffin-base oil.

It is because of this knowledge among drivers and

engineers that Dixon's Flake Graphite is used in the modern high-pressure compound condensing engines, air compressors, and in the high-power automobiles, the engine parts of which move with almost inconceivable rapidity.

The use of Dixon's Flake Graphite will prevent the corroding action of asphaltic-base oils, which in time causes soft spots to appear in cylinders, causing wear, or leaky throttle valves, or causing corrosion when the engines are idle. Such spots are said to be due to stale, rancid animal oil used in animal-oil compounds, coming in contact with hot steam and decomposing, forming acids.

## Setting Forward the Clock

**C**ONSIDERABLE has been said lately about setting forward the clock so that people may begin early in the morning and have more daylight at the end of the day; or at any rate by setting forward the clock to get more daylight outside of the working hours. Some papers have favored this idea, as it is said to have been practised with good results in some European countries. Other papers, like *Commerce and Finance* of New York, consider setting forward the clock as a deception. It says:

"If a man or a nation has not the moral courage to change working hours without monkeying with honest time, he or it should n't do it. Unquestionably there is economy in the consumption of gas, oil, electricity and, possibly, in other things by getting up earlier, going to work earlier, quitting earlier and going to bed earlier in summer than has been the custom. In midsummer the dawn of day is about 4 o'clock. Most city workers do not get to business until 9. It would be of advantage to them to know more of daylight.

"But why make the clock lie? The Kaiser may have considered it an easy method by which his subjects could be made to fool themselves and economize still further, but in a nation as in the individual one deception brings another. France and Holland have followed Germany's example and Great Britain is to do likewise."

In all probability, as *Commerce and Finance* further says, much confusion might come by juggling with time, as every railroad would have to change its time tables, transportation companies, theaters, restaurant people, gas companies, electric light manufacturers and others would have to change, but there may be places where the clock might be set ahead to advantage. A good many years ago the Dixon Company set the clock ahead half an hour at its Graphite Mines at Ticonderoga, and still continues the practice with much satisfaction to its employees, as it enables them to have a half hour more of daylight after the day's work is done.

It is the practice of many housewives always to keep their kitchen clocks half an hour ahead so that they may have meals promptly on time, but, as Rudyard Kipling would say, "that is another story."

## Dixonites Who Pencilize the Country

*This is the tenth of a series of articles featuring Dixon's Pencil Salesmen*



William B. Allen

after the closing of the school term; and Billy became so enthused over the lead pencil and graphite business that he has stuck to it ever since.

Mr. Allen has been fortunate to be endowed by nature with one of the chief essentials to success in salesmanship, namely, the quality of a gentleman, which earns for him a respectful hearing on Dixon's pencils, or such other Dixon products as he might be presenting, wherever he goes. He is very dependable, has the interest of his customer at heart as well as that of the Company he represents, and is willing to "swim a river" to do anyone a favor. These characteristics have naturally made for him a host of friends in the trade.

As a salesman of Dixon's pencils, Mr. Allen is very thorough in his work. While he does a fine business in the general Dixon line, including Dixon's Eldorado, "the master drawing pencil," Dixon's Anglo-Saxon, a rubber-tipped pencil of real quality, etc., he particularly shines as our best salesman on pencil assortments. It isn't safe to put a good pencil assortment like Dixon's "Movie" No. 435 into the hands of Mr. Allen until you have a large advance stock on hand.

It has been said that Billy can get over eighteen holes of golf with a score registering in the "70's," but as the writer of this article has never been able to get under 100, he refuses to believe that such a thing is possible!

### He Wanted His Pencil

*Even Emperor's Autograph Didn't Make Up For It*

IT would appear from an incident reported from Vienna that an emperor is not to be trusted with a pencil. Some time ago, while holding court in the royal palace overlooking the Danube, Francis Joseph received a Hungarian blacksmith who desired to thank his Majesty for the decoration conferred upon him in recognition of his having invented an agricultural machine.

**B**ILLY ALLEN—whose legal style is William B. Allen—is one of the topnotch salesmen of our Chicago District, operating in the territory bordering the Great Lakes. Like many other men who are *doing things* for the Dixon Company to-day, he "began at the beginning" as office-boy in our New York salesroom. This was in July, 1887,

During the audience the blacksmith drew from his pocket a photograph of the Emperor and, handing it to his Majesty, said:

"May I ask your Majesty for your autograph?"

"I cannot give you my autograph at the present moment," said Francis Joseph, with a smile, "for I have neither pen nor pencil within reach."

"I have brought a pencil with me," said the smith, handing it to the Emperor.

Francis Joseph thereupon attached his signature to the photograph and dismissed the smith with a smile and his customary inclination of the head. To the Emperor's surprise, the smith did not retire.

"Is there anything else I can do for you?" asked Francis Joseph.

"Yes, your Majesty, I am waiting for my pencil."

The Emperor of Austria-Hungary had mechanically pocketed it, and he returned it with a hearty laugh.

It must have been a Dixon's Eterno—"the better-than-ink pencil."

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WE present herewith an illustration of a *new* blotter which we have just got out to advertise an old pencil—one that is very appropriately styled, "A Quality Pencil at Medium Price." We refer to Dixon's



"Cabinet," one of the "old reliables" in the Dixon line which is constantly making new records in increasing sales.

Nearly every reliable stationer carries Dixon's "Cabinet" pencils in stock, and if he would like a quantity of these blotters with his special imprint, he need merely so indicate on a postal card.

### Seeing Red When You Should See White

**A**RCHITECTS, draughtsmen, contractors, engineers and carpenters in the past have usually made corrections on blue prints with a red pencil. This method is antiquated. Seeing red on blue is harmful to the eyes.

Dixon's Best White Pencil No. 352 writes true white and is distinct, restful and harmonious on blue prints.

It is also well adapted for securing high lights on matte photographs. Dixon's Best White No. 352 makes an excellent pencil to mark photo albums, photo mounts or any dark, rough surface.

If it cannot be obtained at your photo dealer's or stationer's, send 10 cents in stamps for sample.

### Latin-American Business

**M**R. WM. L. SAUNDERS, Chairman of the Board of Directors of the Ingersoll-Rand Company, tells us in *The Americas* that "it is well known among those familiar with Central and South American conditions that the United States has been looked upon with jealous suspicion. We are so large and so powerful that they have feared our domination. No matter what state authorities may have said in public documents, it has remained true that up to a recent date a large majority of intelligent Latin-American people have felt that the people of the United States with a singleness of purpose in chasing the mighty dollar were anxious to so encircle the little countries to the south of us that we might use their resources to fatten our purses. They have looked upon us as eminently a practical people and in that respect as differing from the old Castilian idea of chivalry and honor. We know that they are mistaken in this and that the ethical code of the American business man is equal to that of any other in the world, but our visits to Latin America and our public statements have had little effect.

"When we took Cuba they were certain that we expected to retain and milk it, and when we gave it back to the Cuban people they were surprised and mystified.

"When we took Panama and declined to pay for it they turned to each other and, nodding their heads, said: 'Ah! I told you so. This is the true policy of the United States. Let us take care that our independence is preserved against them.'

"When one people fear and dislike another it is difficult for them to cultivate either business or social relations. Latin-American countries were always glad to get United States money for investment in their country; but, other things being equal, they preferred foreign capital. American investors showed no great anxiety to go into countries where the people were more or less hostile, so that except in mines and a few other special enterprises no investments on a larger scale were practised in South America."

◆ ◆ ◆

"PERU, S. A., has a coast line which would extend from Boston to Key West. No rain falls on the coast of Peru. In some places rain has not fallen for eighty years."—*Babson*.

◆ ◆ ◆

"ALL the leading universities of Latin America are government owned instead of being privately endowed and controlled as in this country. The hospitals and other leading charities are likewise state affairs, for which all are justly taxed. Without doubt we are coming to this in the United States, but we are still a long distance in the rear."

WEALTH is man's friend, possibly, but it leaves him at death; his friends go with him to the grave, but his good deeds go on beyond and plead before the throne of God that grace and mercy may be shown him.

◆ ◆ ◆

"HE who looks anxiously forward to a vacation is a slave to that vacation. He may accept the vacation when it comes as a matter of course, and maintain freedom and health."

◆ ◆ ◆

"KNOWLEDGE is for use and not for exhibition. It is the source from which we draw wisdom, the power that moves the people of earth."

◆ ◆ ◆

## A Compliment *We Take It*

One of our salesmen, in mailing us a substantial order for Dixon's ELDORADO—"the master drawing pencil"—reports:

"This customer for personal reasons is wedded to [naming another pencil manufacturer], but he has had so many complaints on their drawing pencils, and has heard so many good things about our ELDORADO, that he decided to open an account with us."



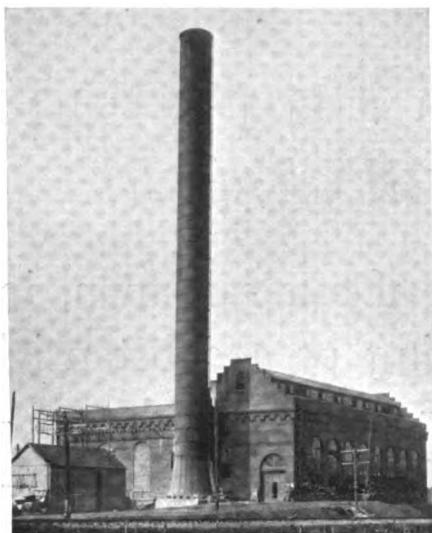
## Power Plant, Indianapolis & Cincinnati Traction Company, Rushville, Ind.

**T**HE illustration shows the power plant of the Indianapolis & Cincinnati Traction Company.

The Dixon Company are proud to quote the following letter from Mr. S. C. Waggoner, Chief Engineer:

"I am glad of this opportunity to say something of the merits of Dixon's Silica-Graphite Paint.

"In the year 1907, we painted our smokestack with this product, giving it one coat, without giving it any further attention until the year 1913 (six years' service for only one coat), when we applied a second coat of Dixon's Silica-Graphite Paint. Today the smokestack is in a splendid state of preservation.



"In this connection allow me to say that I do not believe there is a paint on the market today that is capable of giving any better service than that manufactured by your firm. One of the strong features of Dixon's Paint is that after years of service, it still remains in its elastic condition. I do not believe that there is a paint made where the co-efficient is as nearly identical between the paint film and the metal, the paint remaining in an elastic condition. This causes it to be impervious to moisture, dampness not getting behind it, nor gas fumes, both of which cause other paints to peel or scale off. It also is unaffected by climatic conditions of cold, heat, hail, etc.

"We have used Dixon's Silica-Graphite Paint in our plant very extensively, not only for exterior work, but also interior—upon the metal structure of the building, coal bunkers, breechings, boiler fronts, etc., and after years of application we find at this time no complaint whatever of the service received from this paint.

"Thanking you for the opportunity afforded me to express my views upon your product, I beg to remain,

"Yours respectfully,

(Signed) "S. C. WAGGONER, "Chief Engineer."

**N**OTE: As the letter thoroughly speaks for its subject, we do not need to make comments. It carries its own recommendation to engineers and owners of street and steam railroads, power companies, industrial plants, etc., interested in paint economy and efficiency.

## New Conditions

"If during the present period of artificial prosperity and big profits, we establish a rate of wages which is forty per cent. higher than normal (and in some cases the wages are nearly one hundred per cent. higher than normal), how do our manufacturers hope to reduce these wages without industrial strife? Will labor assume an attitude of acquiescence, look at the problem from a common sense point of view, and permit a reduction of wages in proportion to the reduction of business and of profits? The answer is found in the past history of labor, and that answer is conclusively and emphatically, No.

"There is a glamor in prosperity which blinds the eyes to future possibilities. This is the trouble with labor to-day and it is, to some extent, the trouble with our manufacturers. There are some manufacturers who meet every demand of labor, grant every increase in wages or decrease in hours, so long as they can figure out any profit for themselves. They reckon not of the future.

"Does anyone doubt for a moment that Europe, and particularly the Teutonic powers, which have suffered the most in a loss of foreign markets, will immediately begin a fight not only to regain lost trade but to increase it? This is an economic necessity and absolutely vital to their future commercial life. The markets of the world will be open to competition, and not only will we have to fight to keep a part of our foreign trade, but we shall have to fight to retain our home markets.

"The problem to-day is to safeguard the future, and this can be best accomplished by refusing demands which would inevitably cripple the manufacturer as soon as the war is over. Those manufacturers who are sacrificing profits and closing their shops because of impossible demands are performing a patriotic duty, and they are doing for the industry of the country a service which will not be recognized probably until we are confronted with the commercial war which will follow the present war.

"It is certain that when keen competition begins and when the manufacturer is compelled to fight for his trade, labor will not make any concessions to the manufacturer. It is a case with labor of 'to have and to hold,' and that which is granted to-day will be enlarged upon to-morrow, and any attempt to liquidate labor will result in industrial chaos."

## Interested

"**W**HY are you taking up botany?" inquired Alice. "Because," replied Katie, "my fiancé is interested in a plant of some kind and I want to be able to converse intelligently with him about his business."

**Not Sympathy**  
A Cold-blooded Comparison

C. E. KNOEPPEL in *The Engineering Magazine* for May says:

"Industrial efficiency is the basis of national and military efficiency. Men at work will do their best and accomplish the most when engaged in work which stimulates; when rest balances exertion; when they can work efficiently rather than strenuously; when force and driving tactics give way to the leadership which attracts; when causes contributing to worry have been eliminated; when provision is made to cover the natural inertia due to habit; when they have faith in the intention of the management to deal fairly and honestly; when they are given an amount to cover the time employed plus an additional amount which represents to the man the skill and coöperation displayed."

Senator Hitchcock says in *Hearst's Magazine*:

"It will not do to think of preparedness only in terms of ships, troops and munitions. Equal attention must be paid to the state of American patriotism and American manhood. For more than a year the world has seen England call for fit men, and has watched a far-flung program of military preparedness shattered by strikes, refusals and sullen indifferences. Sacred promises of aid and protection have crumbled while officers sweated in training camps trying to make soldiers out of poverty-stunted weaklings. During the same period Germany has flooded the Continent with singing millions capable of all endurance.

"It is not a question that has to do with sympathy but a cold-blooded comparison of two methods of preparedness. Germany has done the thing which England has not been able to do because Germany, more than any other nation, has made the welfare of the individual citizen the concern of the state, manifesting protective and continuous interest in his life, health, education and future."

In a recent address before the Rubber Club of America, Edward N. Hurley, Vice-chairman of the Federal Trade Commission, said:

"We find that there are about 250,000 business corporations in the country. The astonishing fact is that over 100,000 of these report no net income whatever. In addition 90,000 make less than \$5,000 a year, while only the 60,000 remaining, the more successful ones, make \$5,000 a year or more."

We read further in the same article on Industrial Preparedness, that it is reported that three-fourths of the male wage-earners in the United States earn less than \$600 per year, and that of the 8,000,000 women workers, two-thirds receive less than \$8 per week and one-half less than \$6 per week. On the other hand, there are 1,600 American fortunes yielding \$100,000 or more and 44 yielding \$1,000,000 or more yearly.

Our average unemployment is 14 per cent. as against 6 per cent. in Great Britain and only 2 per cent. in Germany.

It is reported that we are wasting annually in this country \$10,000,000,000, which would build 2,000 battle-ships at \$5,000,000 each. Consider the following

wealth comparison between Germany and the United States:

GERMANY

Wealthy class .....	2% of wealth
Middle class .....	54% of wealth
Poor class .....	44% of wealth

UNITED STATES

2% of people .....	60% of wealth
33% of people .....	35% of wealth
65% of people .....	5% of wealth

A Little Logic and Two Examples

TO move an object which has a tendency to remain stationary by virtue of its own weight, energy must be employed. The drag exerted by the contact of the wheels of an automobile with the ground and the friction of the moving parts must be overcome by energy. The energy supplied by the engine is economized if all moving parts are perfectly finished and thoroughly lubricated. It is well known that all bearings when viewed under the microscope show irregularities of surface. No plain oil or grease can "float" the bearings clear of such irregularities. It is the special function of Ticonderoga Flake Graphite to build up all such irregularities, until there exists a graphited veneer-like surface of wonderful smoothness and endurance. We will give two examples only of what Dixon's Flake Graphite will do in overcoming friction.

A fly-wheel shaft bearing eight inches in diameter and ten inches long carried a load of nearly ten tons. This bearing was supported by a box girder, and was lined with good brass. The engine could not be run, as this bearing invariably got nearly red hot after a few revolutions. Various oils, tallow, sulphur and gunpowder were tried with most indifferent success. The use of graphite and tallow was suggested. The bearing was carefully wiped and the grease box filled with the mixture. The bearing never heated again and the success of flake graphite as a perfect lubricant was proved.

Another instance is that of a planer whose bed plate required the force of eight men to slide it when lubricated with the best of oils or greases. Yet when lubricated with Dixon's Flake Graphite it was easily moved with one hand.

The results obtained with Dixon's Ticonderoga Flake Graphite would seem incredible were they not vouched for by thousands of users.

Not Merely a Pun

DICK and Dick's sons (all of them painters) always specify Dixon's Silica-Graphite Paint as the best and most economical, "per year."

The way they figure it is by dividing the many years of service into the first cost, by which figuring Dixon's Silica-Graphite Paint gives the smallest cost "per year." Equally useful on metal or wood surfaces, and used by industrial plants everywhere.



### One of the Boosters for Dixon Week

THE above illustration shows the manner in which Reinhard Brothers Co., Inc., of Minneapolis, Minn., dressed up their window during Dixon Week, June 3d to 10th.

With the bright red-labeled cans and attractive display cards this concern had a window that stimulated the sale of Dixon's Graphite Automobile Lubricants. This is one of the surest ways to build up a big list of satisfied customers.

Reports from all over the country indicate that this has been one of the most successful weeks that dealers in Dixon's Graphite Automobile Lubricants have ever enjoyed.

From time to time we shall show some of the other attractive window displays that dealers have found to be trade getters for Dixon's Graphite Automobile Lubricants. Window display cards will be sent to any dealers who wish to dress up their windows.

### Graphite

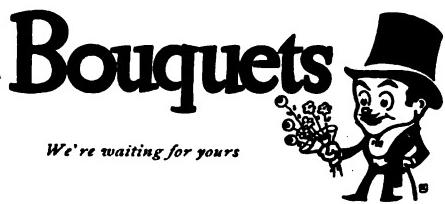
F. M. S., Stillwater, Minn., writes in the March issue of one of the leading trade papers: "You recommended graphite for making pipe joints and for lubricating moving parts. Would you kindly describe the physical and chemical nature which go to make graphite such an efficient lubricant for steam valves and cylinders? I would also like to know if graphite would not serve with greater efficiency on valves if it could be fed in alone without mixing it with valve oil?"

A. Among the qualities that go to make graphite so efficient as a lubricant, is the fact that it is a solid and cannot be squeezed from a bearing, even by enormous pressure. It is the most slippery and unctuous solid known, and forms a uniformly smooth coating over frictional surfaces. It is durable and cannot be burned or frozen, and is not affected by moisture or acids. It is one of the forms of carbon, just as coal or diamonds are, and while it is found in varying degrees of purity,

much depends on the methods of cleaning it from other mineral impurities. In this regard the Joseph Dixon Crucible Company has attained a degree of efficiency that is not surpassed. On account of the difficulty in distributing dry flake graphite it is commonly used in connection with oil or grease. Dixon's Flake Graphite added to either oil or grease increases its lubricating value and produces as near a perfect lubricant as science has discovered or practice demonstrated. A heat that disintegrates an oil or grease and a cold that freezes either have no effect whatever on Dixon's Graphite. As we already stated, the graphite alone is difficult to distribute, hence the combination of oil and graphite or grease and graphite provides the best service, each supplying the qualities lacking in the other.

With regard to the amount of oil, experience will soon prove to any one the proper mixture. From a high railroad authority we have a report from a railroad in the Middle West, that where four pints of oil were used on the cross-compound locomotives in a run of 238 miles, when mixed with graphite two pints have been sufficient. So it may be taken that there is a saving of 50 per cent. in oil. The glaze of graphite is really a thin veneer that is marvelously smooth and durable. It is almost frictionless, and has the quality of filling up the small interstices that exist on the most highly polished surfaces of all metals. This seems to be impossible to oil or grease alone. Not only so, but with the advent of superheated steam its lubricating quality is not in the least diminished.

It will thus be readily observed that with an admixture of oil or grease the graphite reaches every part of the contacting surfaces and remains there, and while there are different varieties and grades of graphite on the market, it should be used advisedly because some grades used will do more harm than good. In all cases where graphite is used instructions can readily be secured from the supplying firm. These instructions are based on extensive experiments and may be relied upon.



"FOR almost two years I have received GRAPHITE—it is most interesting and I wish to express my sincere thanks for it."—*M. Moeller, Jr., Engineering Department Edison Lamp Works of General Electric Company, Harrison, N. J.*

"I WOULD be pleased to receive GRAPHITE addressed to me as Chief Draftsman, Peru Auto Parts Mfg. Company. I occasionally get hold of a copy and find it interesting as well as instructive."—*K. F. Rausch, Chief Draftsman, Peru Auto Parts Mfg. Company, Peru, Ind.*

"I WOULD not be without GRAPHITE. I consider it one of the best trade publications published to-day, and wish to thank you very much for sending me the same for these many years. I am a user of many of your products."—*Mr. Nick Klovborg, Chief Engineer, Central School, Tacoma, Wash.*

"GENTLEMEN: The writer has been an interested reader of your monthly publication GRAPHITE, the past two or three years, and I wish to express my appreciation for your kindness in putting so valuable a trade magazine on my desk each month.

"Yours is one of many trade publications received, which I have come to my residence address, as we all like it: wife and two school youngsters eagerly look forward to its coming. This will let you know we are alive, and that we have not missed any copies; let us know you are the same.

"Better still, we are regular users of Flake Graphite, etc., at this station since I have been here, these ten years past.

"The new dress assumed lately adds to the beauty of the paper, so my wife says, and women sure know.

"Booklet and samples of your drawing pencil Eldorado will be of business interest to me.

"Thanking you for past favors, with best wishes,

**"W. L. FETTERS, Detroit Ave.  
Station, Toledo, Ohio."**



### Elevators, Calumet Elevator Company, South Chicago, Ill.

#### Eight Years' Paint Service

LEVATOR "A" was painted in 1908 with Dixon's Silica-Graphite Paint, Elevators "B" and "C" in 1909. A service of eight years. These elevators are now being repainted with Dixon's Paint.

Dixon's Silica-Graphite Paint is recommended and largely used throughout the entire world on grain elevators and other types of construction, because it LASTS LONGER and therefore costs the least per year of service. It gives a dual economy in labor and material.

We can furnish you with references from all parts of the world where this "LONGEST SERVICE" paint has given a service of from eight to fifteen years, under arduous conditions.

Remember, Dixon's Paint is not a newcomer and uncertain in its performance or reputation. It is known the world over; is widely used and unequalled in quality; therefore worth even more than it costs. It has been made in FIRST QUALITY only for over 50 years and the Dixon Company only mines the unequalled flake silica-graphite pigment.

#### Wise and Superwise

THERE was a man in our town  
Who, though wise beyond his  
years,

Put X Grease in his auto  
And nearly spoiled the gears.  
But when he found conditions thus  
A thought flashed through his  
brain:

He put in Dixon's Graphite Grease  
And fixed them up again.

### The First Automobile Show Ever Held in South America



ON the 16th of April, South America had its first automobile show in Buenos Aires, Argentine, under the auspices of the Argentine Automobile Club. This show was held in conjunction with the automobile races.

The Joseph Dixon Crucible Co. had a very interesting and appropriate exhibit of Dixon's Graphite Automobile Lubricants (the illustrations show the exhibit and views around the grounds). This exhibit created much interest among dealers and automobile users.

Among the American exhibitors were the Joseph Dixon Crucible Co., The Buick Automobile Co., The Cadillac Motor Co., The J. I. Case Co., The Ford Motor Car Co., and The Studebaker Corporation.



This is just another example of Dixon's being "first at the first." In this connection we find in looking over our scrap-book that the Joseph Dixon Crucible Co. was represented in the first Automobile Show held in Madison Square Garden—having booth No. 1.

## My Creed

**T**O grant to all men the great privilege of thinking and to reserve the same right for myself.

To consider consideration one of the greatest of virtues.

To help others to help themselves, and to find my reward in seeing them do it.

To seek out and hug close to my heart a few real friends who understand, rather than play for popularity.

To think well of everyone—including myself.

To give to all work entrusted to me the very best that is in me, and never to be quite satisfied with my own efforts.

To keep my face to the light, and to laugh loudest and longest when about ready to cry.

To pin my faith to the gospel of human service and to do my level best to live long and be good—for something.

To never forget my friends, and to always forget my enemies.

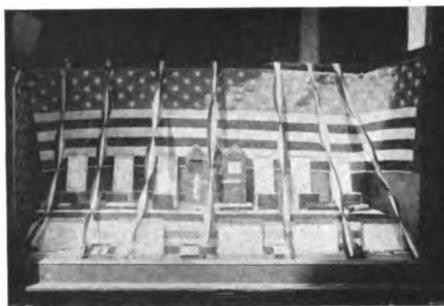
To spend as much time as is possible each day in God's great out-of-doors, and to endeavor to read life's lessons from the pages of nature.

All of which, after being carefully reasoned out, seems to be good enough for all mankind.

## High-Up Painting

**T**HE painters who make us feel dizzy when we look up at them on their high perches of steeples, flagstaffs, wireless towers, light-houses, etc., that require a protective paint, like to make use of Dixon's Silica-Graphite Paint, for the reason that they know its durability and lasting quality. This assures them and their families that they will not need to risk their lives so often.

They know well enough, of course, that they will not have as frequent jobs for repainting, but they realize that there will be fewer chances for them to take, and believe that there will be work enough for them at lower levels where falls are less dangerous.



THE above illustration shows the way in which our New York Office dressed up its window for the "Preparedness Parade" on May 13th. "Uncle Sam Pencils" were shown in boxes, being in keeping with the general Star Spangled Banner effect that was so much in evidence at this Parade.

The Uncle Sam pencil is the red, white, and blue finished pencil made in hexagon and round shapes, with the real, true, old-fashioned Uncle Sam quality.

Make these pencils a part of your safe-and-sane Fourth propaganda and ask your nearest dealer for an Uncle Sam pencil or send us 10 cents in stamps for samples.

## Dixon's Silica-Graphite Paint for Water Works

**W**E have often reproduced strong testimonials of the long service of Dixon's Silica-Graphite in connection with water companies, municipalities, etc. We are now glad to quote the well-known superintendent, Mr. Jno. P. Lucas, of the Greenville Water Works, Greenville, Ohio:

"I have just advised your representative, Mr. J. A. Biel, that our department has used Dixon's Silica-Graphite Paint during the past eighteen years and have found it perfectly satisfactory and cheerfully recommend same for the protection of exposed metal surfaces."

## Poor Mary

**M**ARY had a little calf,  
She wouldn't let you know it;  
But when she turned her back, the  
wind  
Would blow her skirt and show it.  
—*The Gimlet.*

## Paste This Up

**A**CCORDING to *The Silent Partner*, when you come to that point where you begin to wonder just who will take your place, it is self-evident that you are pretty well stuck on yourself. The idea that there is no one to take your place is absurd.

It is an excellent thing to feel your responsibility, to appreciate your resources, and to have self-confidence. But don't get the idea into your head that there is no one to take your place.

There are men, and plenty of them, that can improve on what you are doing, and the quicker you acknowledge to yourself this fact the better it will be for you.

Don't get stuck on yourself.

## Graphite in Air Brakes

**T**HE question of proper lubrication for brake cylinders of the air brake system is one of great importance. The Dixon Brake Cylinder Graphite Grease is particularly well adapted for this purpose, in that it has for its base the correct proportion of Dixon's selected Flake Graphite.

The graphite attaches itself to the irregularities in the metal surfaces, and fills the pores of the leather, thereby making a graphite-to-graphite contact, with the result that friction losses are reduced to the very minimum, and ready and positive response to air pressure reduction is assured.

At the same time the graphite helps to retain the oil which was incorporated in the leather by the manufacturer.

The lubricant is unaffected by wide ranges of temperature variations or by extreme variations of climatic conditions. It is unaffected by moisture, and does not go into emulsion and readily wash away as many other lubricants do. Actual tests have proven that by its use packing leathers are kept in pliable condition for a long time.

Free sample will be sent to those interested.

## The Daily Paper

SOME years ago the writer found a lady reading a New York paper that had been classed as one of the "yellow journals." The writer was somewhat surprised that this particular lady should be reading such a paper, and he asked if she read it believing what she read, to which she replied, "Oh, no! I don't believe anything in the paper, but then you know it's exciting."

About a month ago the New York daily papers that tell us when we see it in their columns we may know "it is so," and they print "all the news that's fit to read," etc., had a very interesting story about a scientific burglar who, when captured, confessed his crimes and used the fictitious name of William F. Smith to save his family, as he told the police.

He claimed to be able to master the combination of an ordinary safe by applying the senses of touch and hearing to the lock mechanism. We were told by the daily papers that when the police and detectives doubted his word he said, "Try me," and in less than a minute it was found, according to the same daily papers, that he could open the most complicated safes at police headquarters.

So good was the story that the makers of time safes did some extra advertising for the benefit of their time lock safes which they claimed would certainly defy the wonderful William F. Smith, scientific burglar.

Now, a month later, we are told by these same papers that William F. Smith, S.B., is a faker of the cheapest kind who could not open a tin box safe with a lock on it unless he had the combination and plenty of time to work at it.

Our friend Smith, S.B., told of studies at college, mentioning the name of one that he had attended, where it was proven he had never been seen even on a visit. There was no truth in his statement that he had worked for a burglar alarm company, where he said he learned the secrets of wiring and how to avoid them and how to prevent an alarm when engaged in a burglary. We are also told that he never opened any of the safes at police headquarters and that the only safe he ever did open was at Media, Pa., at a place where he was employed as a gardener, and that he got into that safe because it was not locked.

Great indeed is the daily paper. It is a question whether the old-time dime novel could give it any points in the way of romancing.

## When a Woman's Thirty

**What is Thirty? Where is Thirty? And Why is it Thirty?**

FURTHERMORE, what is the mystery that somehow surrounds the figure thirty in a woman's age?

The *New York Times* says: "Wanted, a woman under thirty." And adds that that is the form of want ad often inserted in the columns advertising for cloak models, social secretaries, or general housework servants of the type that are in search of a good home and plenty of work rather than lavish wages.

Napoleon said a woman's age didn't interest him if she didn't look over thirty.

A sophisticated judge of the fair sex has said a woman is never dangerous until she is thirty. He did not explain just what he meant. But many a woman of twenty-nine has stepped gayly into thirty with his verdict in view. It was well worth losing another year of youth in order to see what it felt like to be dangerous.

In the good old days an unmarried woman was called an old maid by the time she was twenty-three or twenty-four. To-day thirty seems to be the boundary between young womanhood and old maidhood.

There is marked importance with every age. The octogenarian is revered. Threescore and ten is man's fabled age. The child longs to be ten years old, and the young girl looks on twenty as the jumping-off place. But thirty is marked with even greater importance than the others.

As a matter of fact, most women are more attractive at thirty than they ever have been before. There is a certain type of beauty which develops to the full when a woman is eighteen or twenty, and is faded almost past recognition by the time she is thirty. But most women are improved in looks by years—up to a certain point. Never mind the point.

Intellectually, surely, a woman is far more interesting at thirty than at twenty. Unless she has been over-worked or overburdened, her mind has had a chance to develop and expand, her point of view has had a chance to grow and become stable, and her philosophy of life, whatever it may be, has had a chance to formulate into something tangible.

## Again!

THE winner of the Sixth Annual Indianapolis Sweepstakes Motor Derby, May 30th, Dario Resta, writes as follows: "I thank you for the wonderful lubrication given by Dixon's Graphite in my Peugeot. I cannot praise Dixon's too highly."

Dixon's Graphite Automobile Lubricants were used throughout by every car that finished. Here they are: Second, D'Alene in a Duesenberg; third, Mulford in a Peugeot; fourth, Christiaens in a Sunbeam; fifth, Oldfield in a Delage; sixth, Henderson in a Maxwell; seventh, Wilcox in a Premier; eighth, Haibe in an Ostewig Special; ninth, Johnson in a Crawford; tenth, Alley in an Ogren Special.

In the Second Annual Chicago Automobile Derby Race, June 11th, Dario Resta again won.

Those are merely proofs that Dixon's Graphite Automobile Lubricants are supreme.



"THERE are  $\frac{1}{4}$  mile horses and  $\frac{1}{2}$  mile horses, but a horse to run a mile in record time must be a thoroughbred. It is the same with men—some are  $\frac{1}{4}$  mile men, others are  $\frac{1}{2}$  mile men, and a few are thoroughbreds and able to run the mile in record time."



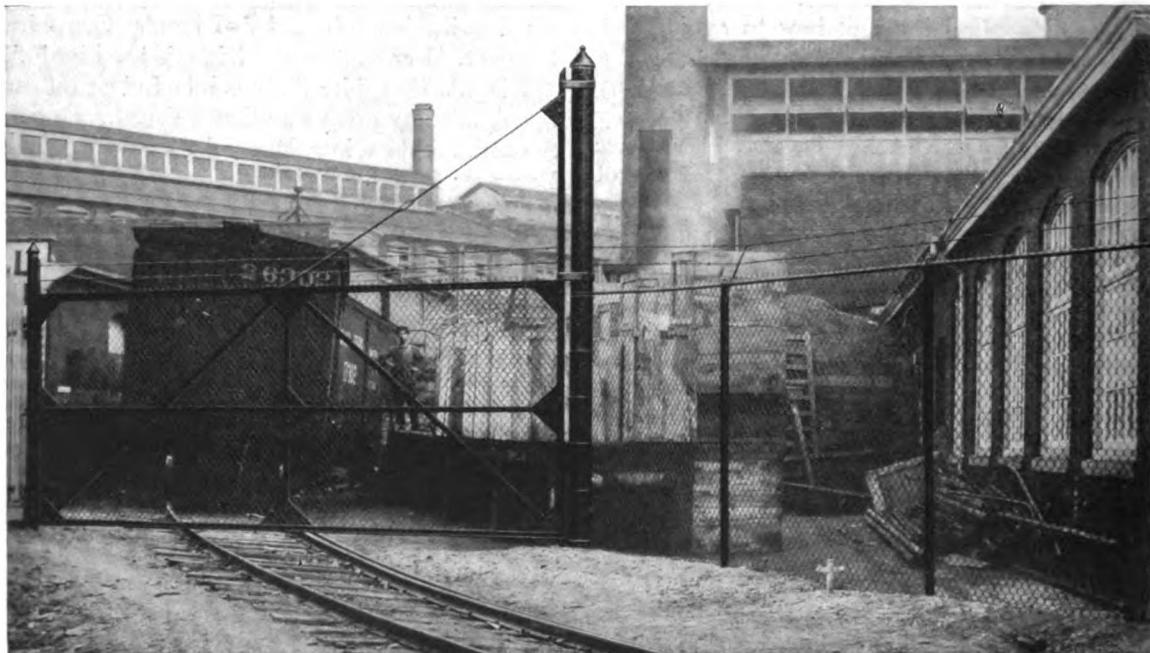
## "Get Off the Fence" About Painting

Many ornamental fences owe their preservation and good appearance to the wonderful service rendered by

**DIXON'S Silica-Graphite PAINT**

The J. W. Fiske Iron Works, who have furnished and erected the fences pictured here, use nothing but Dixon's Silica-Graphite Paint, because they have found it the most economical paint per year of service. Its fifty years' record is a guarantee of satisfaction. Made in FIRST QUALITY only. Booklet No. 190-B is free and worth reading.

Made in Jersey City, N. J., by the **JOSEPH DIXON CRUCIBLE COMPANY**  
Established in 1827



THE DE VINNE PRESS, NEW YORK

*Nathaniel*

# Graphite

VOL. XVIII

AUGUST, 1916

No. 8



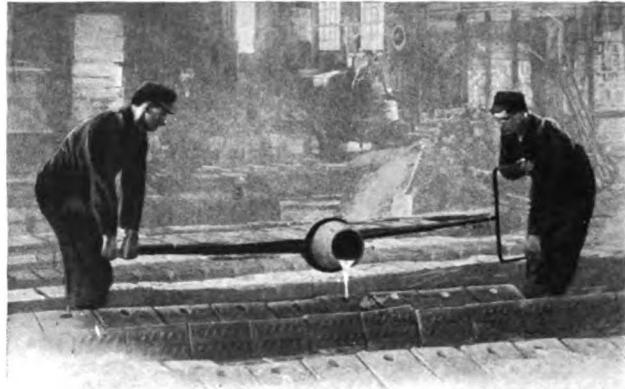
One of the many drafting rooms where  
DIXON'S  
**ELDORADO**  
"the master drawing pencil"  
is used.

A section of the tenth floor room of  
WESTINGHOUSE CHURCH KERR & CO., Inc.  
37 Wall St., NEW YORK CITY.

# Particularly at this Time

A copy of that splendid treatise "Crucibles—their Care and Use" will be valuable to you.

It has forty pages of interesting facts culled from EIGHTY-NINE years' experience in Crucible making.



It will pay you to send for "Crucibles—their Care and Use." Free upon request. Ask for it by No. 190-A.



**Joseph Dixon Crucible Company**  
Jersey City, New Jersey

Established 1827



A-846

## JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED  
1827

Jersey City, N. J., U. S. A.

INCORPORATED  
1868



Miners, Importers and  
Manufacturers of Graphite,  
Plumbago, Black Lead



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Canadian Asbestos Company, Montreal, Quebec, Can.

# Graphite

August  
1916

Vol. XVIII - No. 8

## Graphitized Comments

THE following should be of interest to those who are having trouble in getting Crucibles:

"We have yours of the 29th ult., acknowledging receipt of our order of the 28th ult. and note carefully what you say relative to the trouble you have in getting material.

"We of course appreciate this and hope you will overcome the difficulty you are having and will eventually use American Clay.

"We believe there is quite an improvement in what is now furnished to what they have had at first, and if foundry users will take pains to follow instructions given for the use of Crucibles, we believe their loss will not be as great. We know this has been our experience and we can frankly say the Crucibles furnished are not as good a grade as they were a year or so ago when made of German Clay.

"We trust you have already forwarded our order of the 28th ult."

"WE have heard much valuable comment upon your little booklet 'Useful Spanish Words and Phrases' and received numerous requests from our tourist offices for a supply. We will send a supply to our principal offices, where they will be distributed advantageously."—  
*W. M. Lowrie, Passenger Traffic Manager, United Fruit Company, 17 Battery Place, New York City.*

### A Few Paragraphs of General Interest

- Q. Is a graphite grease of any special benefit over a plain yellow grease or steam oil?
- Q. Will graphite quiet noisy gears?
- Q. What in your opinion is the proper kind of graphite to use (if any), a powdered or a crystal graphite?

*J. A. B.*

1. Graphite grease is the best motor lubricant on the market. It is far superior to yellow grease or steam oil. Be sure that you use good graphite grease, though, for a poor quality will do more harm than good.
2. You ask if graphite will quiet noisy gears. It will help them some, but it is evident that, if gears are noisy, they are either worn or not meshing properly. When experiencing noisy gear trouble the service station should be visited for a thorough examination and test.
3. There is a difference of opinion among motorists as to whether the powdered or crystal (you probably mean flake) graphite is the best. The fine graphite is used more extensively by motor-car owners than the coarse flake. The Joseph Dixon Crucible Co. manufactures a finely ground flake graphite for motors and it is purchased in preference to the coarse flake graphite.

*—Boston Evening Record.*

THOUGH you do buy of a small stationer, do not let him sell you a dust or dirt hardened eraser. Tell him you want a clean, pliable Dixon. And if he complains that he cannot keep a fresh-looking stock or that he can-



not carry a large stock, tell him about what you have just looked at — Dixon's Dust-Proof (dozen) Eraser Box No. 1092. Cut out the picture, which illustrates pencil erasers in red and in green, and combination pencil, ink and type-writer erasers in gray, so that he will know for sure just what you want.

THE men that mosey around the motordromes, at a mere hundred miles per, are mighty discriminating when the question of lubricants comes up. When you consider the fact that practically all of them use Dixon's Graphite Grease for differentials and transmissions, you don't have to ponder over the matter long to realize that there must be some good reason. Most any of the speed kings will tell you that they've chosen Dixon's Graphite Grease because it cuts friction down pretty nearly to the zero point. Any man should use grease that will reduce the repair-bills and multiply mileage.

## National Stationers & Manufacturers Convention

Atlanta, October 9th-13th

**T**HE Atlanta Stationers are preparing quite an interesting and elaborate plan of entertainment for the National Stationers and Manufacturers, as the meeting in October will be the first time the Association has ever met in the Southeast.

Atlanta will endeavor to make the Association realize that Atlanta is very centrally located, and that on account of its high altitude the climate, especially in October, is one of its attractions.

Atlanta is situated in Fulton County, and was founded in 1837, when it was known as Terminus, because it was the end of the Western and Atlantic Railroad, which was projected and finally built by the State, which still owns it, from Atlanta to Chattanooga.

John C. Calhoun, the great South Carolina statesman, predicted that Atlanta would be a great city. He based his opinion upon the fact that the topography of the Southeastern States is such that Atlanta was the natural point of convergence for railroads which would be built parallel with the Appalachian chain of mountains into the Southeast, and the Western lines which would be built from the Mississippi Valley towards the South Atlantic Seaboard.

This prediction has been literally fulfilled, and Atlanta is a railroad center from which fifteen lines radiate in different directions.

Atlanta is within a night's ride of the cities located in the region bounded by the Ohio, Potomac and Mississippi Rivers, the Gulf of Mexico, and the Atlantic Ocean.

One secret of Atlanta's remarkable growth is to be found in the fact that the people pull together on all questions that affect the prosperity of the city. They have a splendid civic pride, which is known as the "Atlanta Spirit." If space would permit, there is far more that we could say which would go to show that the National Stationers and Manufacturers made no mistake in selecting Atlanta for their convention.

### Say!

IT'S no use getting peeved these days if you can't get what you order right off the bat—or if the price is about double what you paid in the past. We are up against it the same as yourselves on every item of material that we have to order. Don't anybody start shoving. We are all working on our nerves, and feel ready to knock a chip off any fellow's shoulder. Have patience.

—Cole, Himself.

### A New Use!

AMONG the various mechanical devices on which Dixon's Graphitoleo has been found practically indispensable, one of the latest to come to our notice is that curious instrument, the Telautograph, by means of which a man can sit at his desk in New York and write with a pen and ink to an instrument which is located in Jersey City, or Brooklyn, or on the next floor, and the result to appear in his own recognizable handwriting.

One of the mechanical experts connected with the concern recently commented on our product as follows:

"I introduced Dixon's Graphitoleo in our shop several years ago. On account of the great importance of preventing friction in the moving parts of our instrument, which, if it is permitted to exist, will naturally interfere with the legibility of the writing, and as the machines may not always be fortunate enough to get oiled at frequent intervals, the only lubricant which can be depended upon to stay on the job is Graphitoleo. We found that it was just what we required for the purpose and it was used for a long period. Later on, through some oversight, we lapsed into the use of oil once more, but have found it necessary to return to the Graphitoleo again in order to get satisfactory results.

"We like the small tubes of Graphitoleo for our work, on account of the fact that a small amount can be squeezed out of the nozzle directly upon the point where it is needed, while the portion remaining in the tube is protected

from any grit which may be flying about. This is considered a very important point. I am certain that if all manufacturers of small mechanism knew of our experience there would be an enormously increased demand for your product."

### Courtesy

**I**N all walks of life men who are gentlemanly and of good breeding are always respectful and courteous to those about them. It helps to make life move along more smoothly. In civil life this courtesy is shown by the custom of tipping the hat to ladies, shaking hands with friends, and greeting persons with a friendly "Good morning," etc.

In the army courtesy is just as necessary, and for the same reasons. It helps to keep the great machine moving without friction.

Courtesy among military men is indispensable to discipline; respect to superiors is not confined to obedience on duty, but is extended on all occasions.

One method of extending this courtesy is by saluting. When in ranks the question of what a private should do is simple—he obeys any command that is given. It is when out of ranks that a private must know how and when to salute.

The above is taken from the *United States Army Manual*, but it is not necessary to put before our readers the methods of saluting. It may, however, be interesting to quote further from the *Manual* as follows:

"In the old days the free men of Europe were all allowed to carry weapons, and when they met each other would hold up his right hand to show that he had no weapon in it, and that they met as friends. Slaves or serfs, however, were not allowed to carry weapons and slunk past the free men without making any sign. In this way the salute came to be the symbol or sign by which soldiers (free men) might recognize each other. The lower classes began to imitate the soldiers in this respect, although in a clumsy, apologetic way, and thence crept into civil life the custom of raising the hand or nodding as one passed an acquaintance."



### Over Ten Years' Paint Service

THE bridge over the Ohio River between East Liverpool, Ohio, and Newell, W. Va., is above illustrated. The prominent bridge engineer in charge is Mr. E. K. Morse. Over ten years ago this bridge was painted with Dixon's Silica-Graphite Paint. This is one of many similar records proving the "longer service" of this unequalled protective paint. Divide this service into the original cost for paint and labor, and you will see that, *per year*, no paint equals Dixon's Silica-Graphite Paint in yearly economy.

Advertising, talk, claims, etc.! They are as nothing, if unsupported by service. Why is Dixon's Paint specified and insisted upon by those who have had the widest experience? We answer: by what it does invariably in service, as in this instance on the East Liverpool bridge. With such a reputation, you can understand why Dixon's is the "paint badge of service," with railroads, factories, Government and other experts, who must have the best economy paint. Specify and use none other under any circumstance. By invariable quality, the Dixon Company will justify your confidence, a confidence and patronage which we have enjoyed from users for over fifty years.

Let us serve you with this FIRST QUALITY paint when next in the market.

### Paint

PAINT, said the late George Fitch, covers more sins than charity. Charity has to hustle to cover up a bad record. But paint covers up checks, knot-holes, season cracks, wrinkles, freckles and high living. Paint

transforms a decrepit and ill-natured-looking shack into a neat, though humble cottage, and dazzles the prospective buyer into paying so much for it that he has n't anything left to spend on the defective plumbing. Paint is used as a substitute for engines in some automobiles, with enormous success. It has been discovered that a bright red automobile with gold stripes and Nile-green spokes does n't need any horse-power at all to speak of, before it is sold.

Paint can also convert the faded young laundry hand into a beautiful young understudy of the comic opera star. Many an impassioned young lover has made violent love to two coats of rosy blushing paint and has been accepted before he has discovered his depressing error.

Next to Nature, it is our greatest beautifier. Nature may rise early in the morning and labor over a town with great energy and devotion, but unless the inhabitants thereof paint their houses and barns and garages and kitchen fences and telephone poles, the results are not encouraging.

Paint makes art possible, and also keeps our ocean steamers from fading away through rust and neglect. It is also the greatest salesman in the world. Many an ingenious invention has doubled in sales after the color of the paint has been changed, and the implement firm which attempted to sell corn planters without painting them blue or green or heliotrope or Helen pink would yell for a receiver in no time.

It costs about \$100 to swathe a house in two thick coats of juicy paint. At this rate the State of Texas has saved over \$1,000,000,000 in the last fifty years on paint alone.

—Copyright by George Matthew Adams.

## Some Youngsters Still Connected with the Dixon Company

1850

**F**IRST, there is Kate Steinhauser, who was hired by Joseph Dixon in 1850 as a girl to wrap stove polish. After a time she was wooed and won and left the Dixon Company, only to return after she became a widow. Among the employees of the Dixon Company she has given us some of her children and even her grandchildren, who are still with us.

1862

**J**OHN LINCKS came as a boy with Joseph Dixon & Company in 1862, and to-day he is foreman of the Stove Polish Department.

1864

**C**HRISTIAN VOEGLER began with Joseph Dixon & Company in 1864 as a boy in the Stove Polish Department helping his father to make the boxes for Dixon's Stove Polish. He is still with the Dixon Company, hale and hearty.

1870

**U**NDER this date we find Arthur K. Ingraham, who began as salesman with the Dixon Company in 1870, and is to-day Assistant Manager of the Boston branch of the Joseph Dixon Crucible Company. He is sometimes known in Boston as "young Mr. Ingraham." He is proud of the long term of years that he has been with the Dixon Company, but as his appearance belies his age, he seldom mentions how long he has been with the Dixon Company.

1872

**M**ATTHIAS D. EARL is to-day one of the Dixon foremen and has been with the Dixon Company since May, 1872. He began as a carpenter and assisted in building the very first pencil factory for the Dixon Company.

1874

**I**N the windy month of March, 1874, there blew through the door of the pencil factory a black-eyed, bright-looking little boy with a shock of curly black hair. He wanted a job and he got it at \$2.00 per week. To-day he is the Superintendent of the Pencil Works and the Brass and Rubber Works of the Dixon Company at several times \$2.00 per week, and his name is John A. Tracy. Mr. Tracy has filled several public offices in Jersey City, is father of a large family, and requires a large automobile even though several members of the family are away sailing the matrimonial sea.

1875

**M**ISS BELLA KELLY, who is still Miss Kelly, cast her lot with the Dixon Company in 1875. She is still so well contented that she has invariably said "No" when any other proposal has been made to her.

1877

**I**N the spring of 1877 there blossomed out with the Dixon Company George E. Long, George Scheppeler and John Heintz. The first occupies a chair in the

office, the second is foreman of the Electroplating Department, and the third is foreman of the Shipping Department in the Crucible Factory.

1878

**A**gain we have the lucky three. Mr. Theodore B. Valjeau, with the Accounting Department of the Dixon Company, Miss Maria O. Brien and Miss Louise Newton, all of whom began with the Dixon Company in 1878 and are still with us.

1879

**M**ISS MARY EWALD began with the Dixon Company in 1879, and, as it were, grew up with the Dixon Company. She still retains her maiden name, and outside of her good work with the Dixon Company is widely known for her charitable acts.

1880

**T**HE year 1880 caught five immortals for the Dixon Company: Mr. Harry Dailey, the Secretary of the Dixon Company, who came as a bill clerk; Mr. William Koester, the Manager of the Credit Department, who came as an errand boy; Mr. R. Van Dien of the Pencil Department, who is widely known as the originator of the Brownies used so extensively by the Dixon Company as an advertising device, came with the Dixon Company as Manager of the Insurance Department and afterward was promoted to the Pencil Department. Mr. Van Dien is a well-known entertainer and President of the Society of American Magicians. When his friends approach him they usually fasten their watches and shift their pocket-books to some other pocket.

Philip Ponners and Emma J. Ranney also began with the Dixon Company in 1880.

Between the above date and 1888, twenty-four people came to the Dixon Company who are still with us.

From 1890 to 1894, twenty-six people came to the Dixon Company.

Between 1895 and the year 1900, thirty-six people came.

Between 1900 and 1916, others came who are really too numerous to mention, as our friends, the auctioneers, say.

In closing, it may be well to say that the Dixon Company is very proud of the boys and girls who have contributed so much to its eighty-nine years of prosperity.

### Dixon Boys at the Border

**T**HE Joseph Dixon Crucible Co. is represented on the border by F. Altz, of the Pencil Department, Frank Atkinson, of the Shipping Department, G. V. Barry, of the Automobile Lubricant Selling Department, Harold V. Callanan, of the Crucible Department, Edwin Cox, of the Lubricant Department, John Hamilton, of the Pencil Department, Russell Sims, of the Paint Department, and Joe Whitley, of the Pencil Department.

The reports from all of these men are very favorable—they are happy, contented—several pounds lighter in weight and several shades darker in color. Their muscles are harder, and their appetites larger.

These men do not seem to look on the duty as a hardship but as an experience from which they will gain immensely. This experience is teaching them something that can never be gotten from books, namely, how to take care of themselves under adverse conditions.

G. V. Barry writes from Brownsville, Texas:

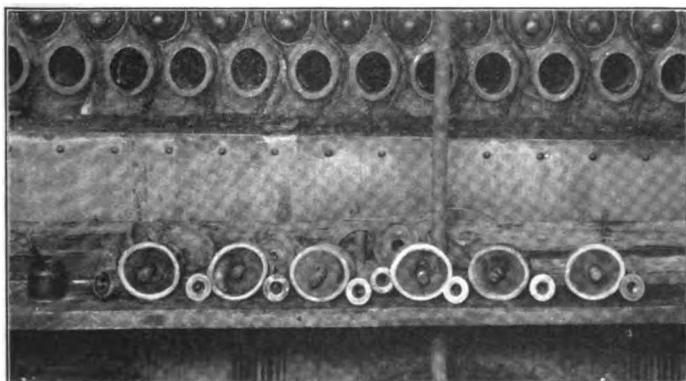
"Uncle Sam is a pretty thoughtful provider and includes nearly everything from mosquito bars down. One thing I would like to get, however, would be a current copy of GRAPHITE. I rather miss it, and I am sure I would not be the only one in Camp who would read it. Pencils too are scarce and a box of those 2020's would find a permanent place in my saddle bags—"permanent" because they last so long. The mud beats graphite all hollow for slipping, but it's not like the flake variety—it packs like the devil."

Harold Callanan writes from Douglas, Arizona:

"Well! here I am at Camp Funston, Douglas, Arizona, with the rest of the soldiers. If I were to tell you everything of interest, and everything has been interesting, I would be writing all morning. I never saw such beautiful scenery. While on the train Wednesday we got into a terrible sand-storm—had to close all the windows and our sixteen cars were nearly blown off the railroad tracks. Very interesting sight, though."

Russell Sims writes from Douglas, Arizona:

"Sure is hot here. Here are some of the eats: Beans, coffee, corned beef, bread, rice, apricots, prunes, beef, bacon, watermelons, canteloupes, cabbage, lemonade, oranges, tomatoes, biscuits, potatoes (mashed, boiled and fried), hash,hardtack, bread pudding with raisins, corn-starch pudding, egg omelade, plums, onions, and I think that is all. Our only visitors are bugs, lizards, and ants."



### Dixon's Graphite Pipe Joint Compound is Used on These Boiler Tube Caps

THE picture shows how they look when taken off for cleaning the tubes—and we would call your attention particularly to the steam joints which are in perfect condition and will go back without having to be reground. This is only one of the many uses for Dixon's Graphite Pipe Joint Compound.

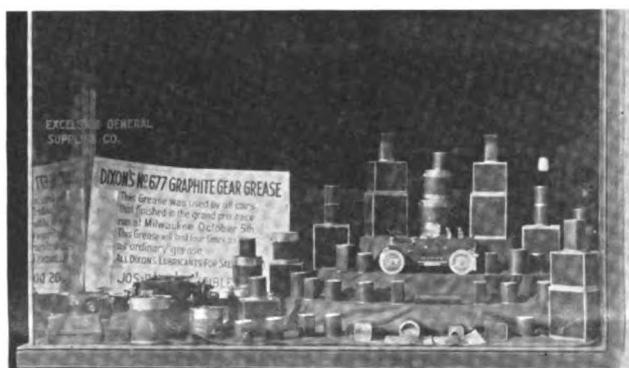
### Dixon Week

#### In the Middle West

Below are two Dixon Auto Lubricant windows that were arranged by enthusiastic dealers.



Leachman-Claiborne Company, Des Moines, Ia.



Excelsior General Supplies Co., Chicago, Ill.

### Longevity

WEBSTER'S Dictionary gives the meaning of longevity as "unusually prolonged life." In other words, longevity of life is procured by some unusual method, or unusually successful method of putting off decay.

Whatever agent accomplishes this, it will be conceded, is an unusual agent and of unusual value.

Rust and oxidation will deteriorate and destroy metal in a very short time. Yet by the use of coatings of protective paint, metal is preserved for one year to fifteen years or more. There are paints cheap in price, but dear because they eat up labor and material, through the necessity of frequent repainting. A paint that preserves for ten or more years is a longevity paint, as well as an economical paint per year of service.

Dixon's Silica-Graphite Paint has records of from five to twenty years of service. Write us for particulars in your class of trade.

Use none other than DIXON'S and when you think of longevity and require longevity of paint service, think of and procure DIXON'S SILICA-GRAHPISTE PAINT.

Seventeen  
Degrees



## The Dependable Pencil

Almost unconsciously, in drawing intricate plans, one bears stronger than necessary on the pencil. With an ordinary pencil the result is a broken lead, or an uneven line, or a scratched drawing.

With "*the master drawing pencil*" the pressure may be increased far out of proportion, and the lead will remain true. There is no grit to tear the paper. The leads will not crumble.

### DIXON'S ELDORADO

*"the master drawing pencil"*

is made true to grade in 17 degrees of hardness.

The leads in Dixon's Eldorado pencils have a perfect balance of smoothness, strength and wearing quality in relation to each degree of hardness or softness. The wood is soft and easy to cut, but clings tightly to the lead.

Dixon's Eldorado is the close friend of men who pride themselves on their work—who do difficult work, and who do good work.

Full-size samples sent on request on your letter head; please specify degrees chiefly used.

**DIXON'S BEST WHITE N° 352**  
*writes white on blueprints*

**JOSEPH DIXON  
CRUCIBLE CO.**  
Dept. 190-J, Jersey City  
New Jersey



**Baseball!**

Dixon's Silica-Graphite Paint Makes Another Home Run

**W**E have seen the following recommendation written by the well-known engineer, Mr. D. L. Fagnan of D. Winant, Inc., No. 178 Front Street, New York City, addressed to a national baseball club which had made the inquiry of the former as to which paint was best adapted for the protection of metal work used on their grandstand and for wooden fences, etc.:

"Answering your letter and giving our experience on the protection of our iron work, condensers, absorbers, galvanized piping, and on our roof, where the use of brackish water from our deep well pump causes considerable corrosion, would say that—

"We tried a number of paints which failed partly because our water is exceedingly corrosive, and very hard upon all our plant. We then tried Dixon's Silica-Graphite Paint and found we obtained much better service. In fact, by the use of it we managed to arrest the corrosion which was fast becoming a serious matter as our ammonia condensers in our large meat packing plant were a constant worry and expense. We have just painted our condensers and absorbers with two coats of Dixon's Black and are fixed for the year. In fact the protective service of this paint against corrosion is wonderful.

"We do not hesitate to recommend Dixon's Dark Red for first coat and Dixon's Black for second coat, after the iron has been properly cleaned from rust, moisture and dirt."

(Signed) **D. L. FAGNAN,**  
*Chief Engineer.*

**After the War—What?**

**A**NY number of writers and speakers are telling us what will happen after the war. Ordinarily such men are looked upon as authorities, but it is extremely doubtful if any man can tell, with any degree of certainty, what conditions business in the United States will be in after the war, or what steps the strong European nations will take to capture business not only in Latin America, but in the United States and Canada as well.

Even peace may be further off than many think, but sooner or later American manufacturers must take thought for what will come after the war. Fortunately we are not involved in the present conflict, but later on when it comes to be a peaceful war—that is, a commercial war—we must take our part in it or return to agricultural pursuits.

It is a well-known fact that the economic stability and success of England and Germany rested upon their success in foreign trade. It has even been said that the present war began in foreign trade jealousy.

The *Engineering Magazine* in an editorial says:

"It is doubtful if the average manufacturer who has erected new buildings and bought special machinery expressly to handle war business, has given much thought to the morrow. Personally these men may not suffer when peace with its inevitable readjustment of the political and economic structure comes. But what

of the thousands of men who are likely to be thrown out of work? What of the hundreds of supplying industries whose prosperity is contingent upon the maintenance of present conditions? What is our Government or what are our business men collectively doing to bridge over or shorten the bound-to-be painful period of readjustment? Are we to have another collapse of enterprise as needless as that which immediately followed the declaration of hostilities abroad and continued for nearly a year?

"Germany, true to her characteristic national bent, is undoubtedly preparing in war just as thoroughly for after the war as in peace she prepared for war. Information, which may be regarded as reasonably authentic, reaches us that German shipping and shipbuilding interests are very actively engaged in getting ready to resume their position in the field of ocean transportation as speedily as possible after hostilities cease. Even Canada has a commission at work formulating plans to re-absorb into industry the returning soldiers."



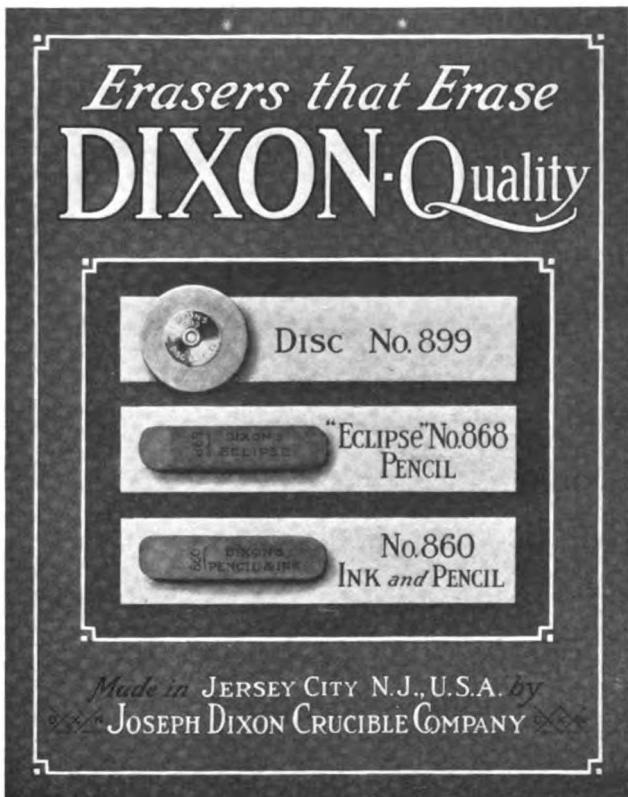
**Northwestern Bank Building, Portland, Ore.**

**I**LLUSTRATED above is the notable and artistic structure of the Northwestern Bank of Portland, the steel work of which is protected by Dixon's Silica-Graphite Paint, approximately 2200 tons being involved.

The Minneapolis Steel & Machinery Company of Minneapolis, Minn., furnished the steel; the Poole-Dean Company of Portland, Oregon, were the erectors and the Dinwiddie Construction Company, also of Portland, were the contractors.

The reason leading architects specify Dixon's Silica-Graphite Paint is because it is the best and most economical.

### A New Dixon Eraser Card



**W**E have just received from the printers what we regard as a very dignified and attractive card advertising three of our most popular styles of erasers, shown in life colors.

The card, which we reproduce, has a light brown background with dark brown panels around the illustrations and descriptions of the erasers, and white lettering with black edging.

Every stationer should have one of these cards, as it has good selling quality, and will help to increase his eraser business. We will cheerfully send one of the cards to any dealer who desires it.

### Ouch!

**O**UR Mr. H. S. Hewson left 'Frisco a short time ago for a trip to the Hawaiian Islands and the following is what we received from Mr. A. C. Bowles, Manager of the 'Frisco Office:

"On leaving the harbor, the ship ran into a nasty, half-pitching, choppy sea, which was especially noticeable as the twenty-five passengers at the captain's table sat down to dinner. "I hope that all twenty-five of you will have a pleasant trip," said the captain, as the soup appeared, "and that this little assembly of twenty-four will be much benefited by the voyage. I look upon these twenty-two smiling faces as a father upon his family, for I am responsible for the safety of this group of seventeen. I hope that all fourteen of you will join me in drinking to a merry trip. I believe that we eight are most congenial, and I applaud the judgment which

chose these three persons for my table. You and I, dear sir, are—here, steward, clear away those dishes and bring me the fish."

We do not know if Mr. Hewson was one of the original twenty-five at the captain's table, or if he sat at one side and observed—and ate his dinner.

### To Our Neighbors:

**Every package of DIXON'S PENCILS**—renowned throughout the world for their excellence—is labeled:

**"MADE IN JERSEY CITY, N. J., U. S. A."**

We appreciate and express thanks for the "honor shown us in our own country," in the form of your patronage in Dixon's Pencils, including:

**DIXON'S AMERICAN GRAPHITE**  
the Standard Office Pencil without tip

**DIXON'S ELDORADO**  
the Master Drawing Pencil

**DIXON'S ANGLO-SAXON**  
the Peerless Rubber-Tipped Pencil

**JOSEPH DIXON CRUCIBLE CO.**

**I**T is seldom that a community such as Jersey City upholds, patronizes and boasts of its factories in the way that Jersey Cityites do about the Joseph Dixon Crucible Co. They are indeed proud of the fact that the world's most famous and foremost graphite industry is located in Jersey City. They are equally proud of the fact that Dixon's "Eldorado," the master drawing pencil, was born in Jersey City, the one pencil that is setting a new standard for the world.

On the opposite page is a window display of one of the leading stationers in Jersey City..

The card illustrated above is the sentiment that Joseph Dixon Crucible Co. expressed to its neighbors during Jersey City Week, June 3d to 10th. It was prominently placed in the windows of all stationery stores.

## Made in Jersey City



DURING the week of July 5th to 10th Jersey City was in gala attire, it being "Made in Jersey City Week." Aside from many novel effects in street and building decoration, particular attention was given to window displays. The show windows of the merchants on all the principal business streets were at the disposal of Jersey City manufacturers and an opportunity afforded the public to study the beautiful and useful products of their own city.

The Dixon Company displayed their line of Pencils, Crayons, and Erasers in a number of prominent windows, the illustration herewith being the window of L. P. Hansen, 81 Montgomery Street. Hansen's is one of the oldest stationery houses in Jersey City, carrying complete lines of choice stock, with an established business built up through integrity and commanding the respect of all who are his friends as well as customers.

## "Of Public Concern"

TRANSPORTATION enters into every phase of life. So dependent are all classes of society upon regular and adequate facilities for traffic that the average individual is not accustomed to thinking about a world without them. What would happen, for example, if there were no regular trains to take the farm products to the big markets?

"The advantages to any community of regular transport of raw material into its boundaries and of the manufactured product out are immeasurable.

"The public seldom stops to think about it, so accustomed have we become to such service.

"The possibility of the modern system of railroad transportation being absolutely tied up is not so remote as some might believe.

"The organizations of railroad men, about 312,000 in number, have told the railroad managers that unless their demands are met they will strike, tying up at once a service affecting 100,000,000 people.

"The question that comes naturally to the fore is, 'Have the employees sufficient justification for taking a step fraught with consequences so grave?'"

The public is vitally affected, and the question is one of such grave importance that all the facts should be brought out that it may be fully determined before the horns of the railway associations and the railroad managements lock.

## "Law Mad America"

*COMMERCE AND FINANCE* tells us that in the last ten years the British Parliament has passed 1,500 laws. In the last five years American national and state law-making bodies have passed 62,550 laws. An appeal was made at the Convention of the National Electrical Contractors Association, at the Hotel McAlpin, for the election to Congress of men who have looked a payroll in the face.

It has been the custom in America to elect lawyers to the Legislatures and to Congress. The ordinary, every-day business man is not supposed to have the mental equipment to comprehend fully the intricacies of law-making. He has nothing but common sense. Office holding is looked upon by lawyers, and particularly young lawyers, as an admirable vehicle for advertising at the expense of the public. There is nothing in America that needs reforming so much as the law. There is so much law that justice is almost submerged.

*Commerce and Finance* further says it is not likely that the tinkers of the law ever will stop or act within reason while they can run wild at the expense of the public. They have made such a horrible mess of the law that no one knows what is the law. A man with money can keep a case in the courts for five, ten, twenty or thirty years. There is a case now before the Federal Court of the Eastern District of New York. It was started more than twenty-five years ago. The men who started it, all the lawyers who appeared for defendant and plaintiff, the judge before whom it was tried originally, are dead. The case may be in the court for another twenty-five years.

Law has become such a farce in America that the honest lawyer will advise any person who has not a big bank account and who contemplates litigation to settle the case out of court even at a considerable sacrifice of his rights rather than subject himself to the heavy costs, the long delays, the doubts and the dangers of the law.

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"ADVERTISING is only a time-saving device which enables the people to learn in the shortest possible time the good qualities of your products. On the other hand, if your products do not come up to the expectations which you have developed in the people through your advertisements, no salesman (no matter how good he may be), nor any power in the world will enable you to sell your products."—*Mr. D. G. Montt, in an address before the T. P. A.*

## Mexico

THE editor of *Commerce and Finance* has expressed his belief that a large majority of the American people were greatly relieved and gratified when the turn of events indicated that a peaceful way out of the Mexican imbroglio might be found. According to the editor, there has been a half-confessed sentiment that whatever the provocation, it would be unsportsmanlike for the United States to match its military and economic strength against distraught and exhausted Mexico.

As evidencing the trend of public opinion the editor of *Commerce and Finance* printed some thoughts from the editorial columns of the Albany *Times-Union* and some extracts from a sermon preached by the Rev. Dr. Washington Gladden of Columbus, Ohio.

The Albany *Times-Union* calls attention to several things that the critics of the President seem to have overlooked. Mr. Taft when President had declined to recognize Huerta. Mr. Taft said: "I have no sympathy for that which prompts us for purposes of exploitation and gain to invade another country and involve ourselves in a war, the extent of which we could not realize, and the sacrifice of thousands of lives and millions of treasure."

President Wilson did not recognize Huerta because Huerta did not represent such a government as deserved recognition.

After the Vera Cruz and the Tampico incidents, six Latin-American countries offered to unite with the United States in an effort to settle things in Mexico. After going fully into the details of the situation the representatives of the Latin-American states unanimously recommended to their governments "that the government of which General Carranza was the leader ought to be recognized as the de facto government of Mexico." Keep in mind that the decision that some one in Mexico ought to be recognized was the decision of fourteen governments of which ours was only one.

President Wilson's policy has been one of consideration, humanity and mercy. It has been his desire to assure as good a government to Mexico as was possible, to guard the interests of our own people and to act in unison with the Latin-American republics.

Dr. Washington Gladden calls to our attention that President Wilson is a historian and, therefore, knows the discreditable facts which may be found in history relative to the conquest of Mexico seventy years ago.

Dr. Gladden asks if we have ever known of a book written for boys about the Mexican War. He never wanted to read the story over. There was no glory in our conquest of Mexico. There was n't much to brag about. And yet the disparity between the two nations is vastly greater now than it was then.

Dr. Gladden calls our attention first to the interest of thousands of millions of dollars, invested in business, financial or industrial, which would reap an immediate profit from war. Nobody supposes that these interests have openly proposed war, but no one knows what their influence has been.

Second, is the concentrated influence of the army

and navy organizations, which are naturally and professionally in favor of war.

Third, is the war hysteria which has been sweeping over this country like an epidemic. Millions are mad to rush into war instead of revolting at the horror of the war.

Of course in the long run the United States will conquer Mexico, but even a small and poor nation, fighting with desperation, may inflict terrible injury on a big and rich nation. England found that out in the Boer War.

Dr. Gladden would like to see a delegation of some of our best-known and most influential men like ex-President Taft, President Eliot and Cardinal Gibbons and Judge Parker and some other men of all parties sent down to Mexico with a right to speak for America. Such a delegation could make the Mexicans understand that we have no sinister purposes; that our deepest interest is that they should be at peace; that we have no wish to dictate how they shall settle their differences, but that we are ready, as soon as they can come together and make peace, to come to their aid with the most liberal subventions for rebuilding their railways and their factories and reopening their mines and getting the tide of prosperity once more flowing.

It would cost something, but think of the harvest which would spring from such a sowing!

## Paint for Metal Roofing and Galvanized Iron

THE question is often asked which is the best protective paint for roofs and galvanized iron work on buildings.

The following testimonial is one of many testimonials received by the Dixon Company:

"In the spring of 1914, my residence on Christian Street, Philadelphia, and that of my neighbor, were repainted.

"The question had arisen as to what paint should be used as the priming coat for the galvanized iron over the front bay windows. The painter suggested a preparation that is specially designed for galvanized iron, and this product was used on the bay windows of the neighboring house. For the bay windows of my house I insisted upon Dixon's Silica-Graphite Paint, Dark Red, being used as the first coat.

"At this time, large portions of the galvanized iron on the bay windows of my neighbor's house are absolutely bare because the paint has peeled off, whereas Dixon's Silica-Graphite Paint on the bay windows of my residence is in perfect condition.

"Incidentally I might mention that Dixon's Dark Red has up to date given five years' service on the tin roof of another house of mine on North 55th Street, Philadelphia, without the necessity of repainting.

(Signed) "H. PRICE."

\* \* \*

THOSE who receive GRAPHITE are requested to send in any change of address at the earliest opportunity. It will be more convenient in making up the mailing list if the new address is written on the envelope in which the magazine is received.

**Translation**

(Translated from the French  
by L. W. Brooks)



New York City, May 15, 1916.  
Joseph Dixon Crucible Company,  
Jersey City, N. J.

Gentlemen:

In response to your request I am pleased to inform you that for many years (about fourteen years) I have used Dixon's Graphite for my cars, as well as for the various contests in which I have taken part.

I used Dixon's Graphite in the Paris-Vienna Race in 1902, and the Paris-Madrid Race in 1903, in the Ardennes Circuit Races, 1905, in the Touraine Circuit, in the International Circuit, at Boulogne, at Dieppe, at Mans, etc. I always provided myself with graphite for the hard contests in the warm countries; for example, for the Spanish Cup Race at Barcelona, at Tibidabo, at Mont Ventoux, at the Algerian Circuit that I won in 1911 in a Reo, at the Medeagh Course that I won in 1912 with an Excelsior car, and at the Morocco Races that I won in 1913 and 1914 with a Metallurgique. These last two races, which were very long and difficult, had to be run through country not even civilized and without any road, only trails. There was much sand—and that torrid heat!

I consider that Dixon's Graphite, if used as it should be, very much improves the operation of the motor.

Yours very truly,  
(Signed) PAUL RIVIÈRE  
*Voiture Auto-Metallurgique  
of Brussels.*

**Dixon's Best White Pencils  
on Van Dyck Prints**

**W**E are grateful to a New York architect for bringing to our attention the fact that Dixon's Best White Pencils No. 352 are equally desirable for use on Van Dyck prints as on blue prints.

The gentleman says: "As a substitute for the alkaline solution or 'white ink'—which, to use a Hibernianism, is yellow—it is a decided improvement, as it more nearly approaches the tone, avoids spreading, and, as I have just demonstrated, permits erasure."

**Capital**

**C**APITAL is the result of saving. In a very large measure, it is automatic. The individual, the community, the whole world strives to pay for its living, repair its wastes, and put a little aside.

People will pay interest for the use of capital only if the return to them for its actual use exceeds the interest rate. To the borrower, the actual amount of interest to be paid is of concern only because it is incidental to the hypothetical margin between the interest obligation he assumes and the prospective return he hopes to obtain through the use of the capital.

This is why a rate of six per cent. on capital may seem cheap to the business man at one time, while a rate of three per cent. seems dear to him at another; and why interest rates are always relative, never absolute.

The return which men expect to receive through the use of capital is dependent primarily on the quantity of the goods they can produce and sell, be they bushels of wheat or tons of rails.

Here is the basis for the demand of capital—the fears and hopes of producers.

The above is only a paragraph or two from a most interesting article by Arthur S. Dewing in *The Yale Review* for July.

"It is certain that an executive who is not continually training himself will never succeed in training other men or in developing his own business."

**One on the Doctor**

**H**ERE is a good one from the *New York Medical Journal*.

A doctor had occasion to visit a woman who occupied one small tenement room with her three children. After making out a prescription he gave her two dollars, telling her to buy the medicine and use the change for needed food. On the following day, as he was about to enter the tenement for a second call, he met the ten-year-old daughter of the patient.

"How is your mother?" he inquired of the child. "Oh, she's well," was the answer. "She took that two dollars and got a real doctor."

Every physician knows that the professional advice which he doles out for nothing is not taken seriously, is hardly ever followed, and is lightly regarded, while that which he or another doctor charges a stiff fee for is religiously carried out.

**Baldheaded Men and  
Baldheaded Women**

**W**E read in the daily papers that an investigator has made a very careful study of bald-headed men and women, and the report of this investigator appears in the August *Journal of Heredity*.

Hats, we are told, are no more to blame for baldheads than is the wool of sheep responsible for horns. Baldness cannot be achieved; the bald, like poets, are born and not made.

It is even asserted that baldness in women is more frequent than most bachelors will believe, as women can conceal their baldness much more easily than men.

Through heredity, a man stands twice the chance of being bald than a woman does. According to the investigator, a man falls heir to falling hair if either of his parents had that tendency, while a woman becomes bald only if both parents were.

The only moral that we can draw is that children should be very careful and not have baldheaded parents.

## A Rather Incredible Tale About Some Other Tails

**W**E would not for a moment doubt anything that our schoolman passes over to us, as he has for these many years been associated with teachers of truth who would not for any consideration knowingly make any misstatements.

However, it is sometimes very hard to believe even preachers. But, to get to the story: Our schoolman tells us that while on his vacation on the coast of Maine he learned of the following incident for which he can vouch as being "absolutely true in every particular":

On one of the islands which fringe the coast of "The Land of the Pointed Firs," there are many summer cottages which are used two or three months in the year, and then closed.

On opening one of these cottages early in July it was noticed that a family of squirrels had entered during the past winter and had made it their home. They had made their nests in the beds, which of course they had ruined. Equal havoc had been made with the books that filled the various shelves, every book being mutilated with one exception, and that was the Bible, which, although standing on the shelf with the other books, remained untouched.

Besides the books everything else that was eatable or chewable in the rooms, such as the photograph albums, tennis rackets, shoes, clothing of all descriptions, had been given attention by the squirrels, and again with one exception: on the back of a chair over which the squirrels were continually passing was folded the American flag, and this, like the Holy Bible, remained sacred to the squirrels.

If any one doubts the accuracy of this statement, we refer him to Mr. Geo. H. Reed, the head of our School Department.

A TRAVELER in Australia noticed that Dixon's Pencils are used throughout the new British War College. It is said that this is because the pencils furnished by the government are much inferior in quality to Dixon's.

## Another Good Way

**C**HIMMY: "Wot's de best way to teach a girl to swim?"

**J**OHNNY: "Well, yer want ter take her gently by de hand, lead her gently down to de water, put yer arm 'round her waist, and—"

**C**HIMMY: "Oh, cut it out! It's me sister."

**J**OHNNY: "Oh! Push her off de dock!"

## "The Salesmanship Congress"

**T**HREE was held in Detroit in July the "World's Salesmanship Congress." This Congress chose as its slogan, "Business Betterment through Betterment in Salesmanship."

The Congress aims to define salesmanship, if possible, to prevent its further dishonest exploitation; to promote its study and investigation by the encouragement of university research, school text-books, and approved lecture courses; the standardization of the profession of salesmen; and the organization of salesmen for their own self-improvement and for the adoption by them of standards of practice.

The idea of the Congress was to give the salesman a better conception of himself and the public a better conception of the salesman. Women figured quite as prominently as men in all the proceedings, and salesmen, themselves, were as conspicuous on the programme as sales managers and executives.

## Pork

**O**UR readers have noted that considerable has been said in the daily papers about "Pork." Possibly some of our readers have been puzzled as to just what the word "Pork" in this case meant.

*Hardware Age* tells us that "Pork" is a symbol of unearned increment, that the very name suggests a bulk of fatty richness accumulated with no effort save that used in the satisfying of hoggish appetite.

From a political standpoint "Pork" usually represents the use of public money for purely local votes.

## "High Finance"

**F**INANCE means constructive work. It means mobilizing and organizing the wealth of the country so that the scattered monetary resources of the individuals may be united and guided into a mighty current of fruitful co-operation—a hundredfold—nay, ten thousandfold as potent as they would or could be in individual hands.

Finance means promoting and facilitating the country's trade at home and abroad, creating new wealth, making new jobs for workers.

It means continuous study of the conditions prevailing throughout the world. It means daring and imagination combined with care and foresight and integrity. . . .

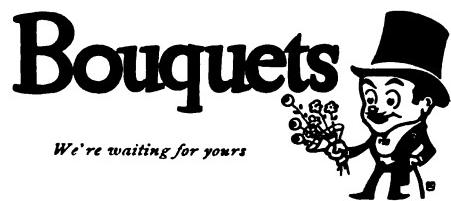
—Extract from speech  
of a New York Banker.

## Do Not Imitate

**N**O man can make a worth-while imitation. If some of the old-time successful men were to come to life to-day they would not imitate past performances, and no successful man to-day can make a worthwhile imitation of what has been done. No matter what the line of business may be, it must be of the period, the day, the hour, the minute. In other words, we must, even while holding to the best traditions of the past, square our work with the conditions and requirements of to-day, and each man must put into his work his own thought, his own convictions and his own analysis of the times and every-day issues.

"I WOULD like to know if you will mail me direct two boxes of Dixon's Graphite Everlasting Axle Grease. We like it the best of any wagon grease we have used and are anxious to get some. It has such lasting qualities, does not run out over the hubs and is much more satisfactory than any other kind I have used."

PRESIDENT WILSON is the twenty-eighth President of the United States. Of the twenty-seven one was a planter; two were statesmen; two were soldiers; one was a farmer; one was a college professor. The others were lawyers.



"I HAVE just seen a copy of GRAPHITE in its new form, and I want to congratulate you upon its appearance and the character of the matter contained."

"Will you please be sure that the Editorial Department is on the mailing list for GRAPHITE? It occurs to me that there will undoubtedly be many opportunities when we can quote from your pages in the editorial section and I believe you will have no objection to our doing so, providing that due credit is given."—*Editor Julian Chase.*

"KINDLY mail me regularly a copy of GRAPHITE. I admire the little magazine for the reason it resembles the material after which it has been named, always so smooth, lubricating as it goes around 'many rough places in Life.' "—*H. S. Spear.*

"OF all the magazines I read, I can assure you that the little GRAPHITE never escapes my attention. It contains inestimable information regarding Graphite and its striking qualities; and might add the paper was the direct motive in testing Dixon's Pencils, and to this day I never regret the trial, as the pencils are unequalled in quality and durability."—*Elwyn F. Kissinger.*

"FOR the last two years that I have received GRAPHITE I have enjoyed it very much and it is one of the most welcome publications that come to my office. I have during the last six years sold a great many gross of Dixon's Pencils and always found them to give satisfaction to our customers."—*Mr. John F. Seem (District Representative, Roberts & Meck, School Supplies, Harrisburg, Pa.), Tannersville, Pa.*

"My pupils have seen the Dixon booklet 'Useful Spanish Words and Phrases' and each desires to have a copy for personal use."—*J. Mercado, Teacher of Spanish, Commercial High School, Brooklyn, N. Y.*

## Letters to the Road Men

A SALESMAN just back from the road has some very unpleasant things to say regarding the letters sent to him while on the trip by his firm. "When a man gets out on the road," he said, "he is all keyed up to do as much business as he can. Prospects may not look good to him, but before he starts off he has to induce a spirit of optimism so that he can literally carry his customers off their feet. Practically every letter I got was like a bucket of cold water poured all over me and my plans. It may be only the most trivial matter, yet the tone of these letters takes the form of a reprimand. Much better results could be obtained by a concern if it would reserve all criticism until the salesman gets back again. What he needs on the road is encouragement and the feeling that his people are behind him, not against him."

—*N. Y. Times.*

## Yearly Economy

DIXON'S Silica-Graphite Paint is not intended to compete in first cost with made-to-sell priced paints, but after several years' use it will be found that Dixon's Paint costs less than any other paint. This is found by dividing the cost by the years of service.

Furthermore, the cost for repairs is less, as it has been found that Dixon's Silica-Graphite Paint protects so thoroughly that it is only on portions of iron construction work subjected to excessive and unexpected wear or abuse that repainting becomes necessary. From the standpoint of quality, no paint can have a more durable or lasting pigment, or a better grade of pure boiled linseed oil (which is the vehicle we use) than Dixon's Silica-Graphite Paint.

## These Hot Days

I WISH I were a pint of cream;  
There's nothing I could dream of  
Would give me more intense delight

Than being made ice cream of.  
I wish I were a quart of milk;  
I long for nothing greater  
Than standing quiet all day long  
In the refrigerator.

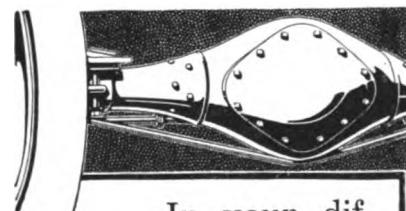
—*Commerce and Finance.*

## Work

THERE has been an urgent need of men to work in various fields at wages never before offered. Agents scour the city to find men. First they feed those they prevail upon to accept their offers and then they lose many of the lot before they can get them out of town, the men seeking to escape as soon as they have a meal.

The Dixon Company got eighteen men for their mines at Ticonderoga, lost some of them before leaving New York City, lost more at Albany, and lost them all before the week had passed. We have heard some of the men say they like change. They would work a week or so in one place and then come back to the city, and when hard up would again go to the agent, who would be glad to place them once more on another job, as the agent gets a commission.

It is said at the Municipal Lodging House only one out of every sixty-five men who come there takes advantage of such offers of employment as come through that channel. The call for labor and the wages of labor, skilled and unskilled, never were better than at the present, but there are some who naturally are idlers. They have no self-respect and prefer to eat at the public crib.



In your differential use

**DIXON'S**  
GRAPHITE  
Automobile  
LUBRICANTS

If grease leaks out of  
your differential, use  
DIXON'S 680—it is the  
"non-leak" grease.

Ask your dealer for the  
Dixon Lubricating Chart

JOSEPH DIXON CRUCIBLE CO.

 Jersey City, N. J.  
Established 1827 

TRADE MARK

**SAVE MONEY!**

***BUY!***

# **DIXON'S**

***THE PIONEER***

## **Boiler Graphite**

---

**THE BOILER GRAPHITE THAT GIVES RESULTS**

---

¶ Dixon's Boiler Graphite (Flake Graphite) saves in two ways, fuel cost and boiler cleaning cost. ¶ The action of selected Flake Graphite is purely mechanical—it acts as dry sand would in a concrete mold—Dixon's Flake Boiler Graphite renders scale soft, friable and easily removed. The flakes form a protective surface on the tubes and shells to which scale will not adhere firmly. ¶ Dixon's (The Pioneer) Boiler Graphite is produced by the oldest establishment in the world making and producing graphite. ¶ It is backed by the Dixon Name, the Dixon Reputation of producing only the BEST. ¶ Make sure you get "Dixon's" and "Flake" on your next order for a scale remedy—it will save you money.

*Send for booklet 190-T*

Made in JERSEY CITY, N. J., by the

**JOSEPH DIXON CRUCIBLE COMPANY**



Established 1827



190-T

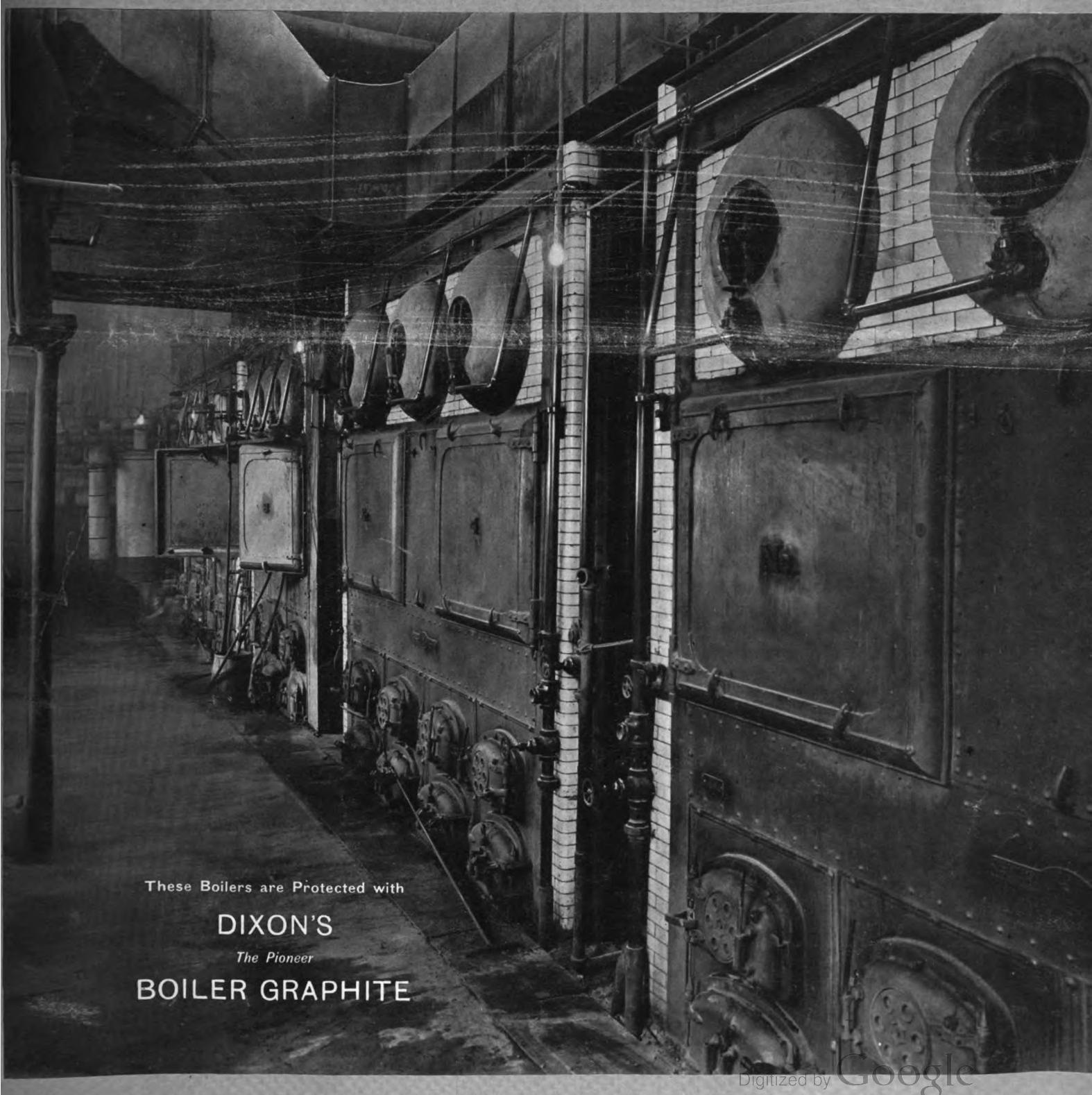
THE DE VINNE PRESS  
NEW YORK

# Graphite

VOL. XVIII

OCTOBER 1916

No. 10



These Boilers are Protected with

DIXON'S

*The Pioneer*

BOILER GRAPHITE

# JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED 1827 Jersey City, N. J., U.S.A. INCORPORATED 1868

**Miners, Importers and  
Manufacturers of Graphite,  
Plumbago, Black Lead**

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GEORGE E. LONG, Vice-Pres.  
HARRY DAILEY, Secretary  
J. H. SCHERMERHORN, Treas.  
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## EUROPEAN AGENTS

Graphite Products, Ltd., 918-920 Queen's Road, Battersea, London

## SOUTH AMERICAN AGENT

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

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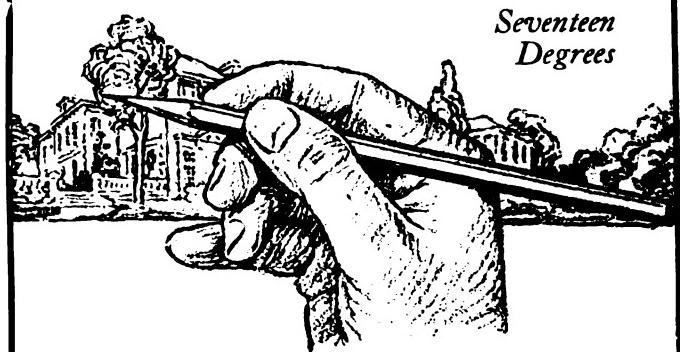
FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.

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FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

Canadian Asbestos Company, Montreal, Quebec, Can.

Seventeen  
Degrees



## The Pencil as a Thought Conductor

Technical men rarely talk business without a pencil in their hands. A sketch illustrates thought more powerfully than words.

The more perfect the pencil the more efficiently is the thought conducted.

## DIXON'S ELDORADO

"the master drawing pencil"

is preferred for every class of pencil work, in the field or in the drafting room. The leads are strong and long-wearing, responsive and even in tone.

Write us on your letter head for full-size samples of them. We would like you to know the superiority of Dixon's Eldorado. It is made in America.

**Joseph Dixon Crucible Co.**  
Dept. 190-J, Jersey City, N. J.

DIXON'S "ELDORADO"-  
the master drawing pencil - HB

DIXON'S BEST WHITE No 352  
Write white on blue paper.

DIXON'S "ELDORADO"-  
the master drawing pencil - 6H

# Graphite



Vol. xviii October No. 10  
1916

## Graphitized Comments

### A Few Paragraphs of General Interest

"We have been using your Flake Boiler Graphite

No. 2 in our 100 H.P. boiler for about a year with very gratifying results and have just recently sent you an order for a new supply.

"The feed water we use is inclined to deposit a hard white scale, but the graphite prevents it from sticking and the sediment comes out in the form of a thin slush when the boiler is blown off. What is left can easily be washed out with a hose at cleaning time.

"Our boiler has been in use about three years. During the first two years we used an inferior grade of boiler graphite although I have never been able to detect the least bit of damaging effect on the iron from the use of graphite.

"I consider Dixon's Flake Boiler Graphite No. 2 the most economical and effective treatment for the prevention of boiler scale that I have ever had anything to do with."—*Lexington Ice & Coal Co., G. W. Leonard, Engineer.*

"In reference to your Graphite Grease No. 677 which we are using on our mould plungers, our factory foreman says it is the best grease they ever used. They mix it with a light mineral oil and use it for greasing the plungers, as it prevents the plungers sticking and marking the glass. You know we have been using this material now for about 7 or 8 months, and have had better success with it than with anything we have ever used."—*Hazel-Atlas Glass Co.*

"ENCLOSED you will find P. O. money order for which please send me some more grease for my car.

"Please send me it as soon as possible, as I am in need of same.

"I use Dixon's Graphite Automobile Greases exclusively. Have been using them for three consecutive years, in fact will not use any other.

"I find Dixon's Graphite Greases far superior to any other on the market, for retarding friction, and remaining in the bearings where required."

"ENCLOSED you will find an order for another five pounds of your Special Graphite No. 635, which you may ship at your earliest convenience.

"We secured a five-pound can as soon as you put it on the market and wish to assure you that it has saved considerable time and expense on our linotype battery, and is much superior to any of the former preparations on the market. I would like to suggest though that instead of sprinkling the graphite on felt to polish the space bands, I have had much better satisfaction by using a soft pine board, which does not have a tendency to 'round' the edges of the sleeves.

"Trusting to receive the above order at your early convenience, believe me."—*A. E. Rodgers, Linotype Machinist.*

"I THINK you would be interested in knowing that I have used the Dixon Graphite Automobile Lubricants in racing and pleasure cars for the past eight years. I have never experienced lubricating trouble of any kind or description and I know of several instances where the use of your lubricants rendered me remarkable service. Mechanical troubles developing in the car, in more than one instance it was only due to the wonderful lubricating properties in your goods that I was enabled to finish.

"I also have used your Motor Graphite in aeroplane engines on and off for the past five years with wonderful results."

(Signed) *Milton MacBride.*

"WE thank you for the samples of pencils sent with your letter of June 24th, and are especially satisfied with your 'Endurance' Copying Pencil, which has the right name, as the wearing of the point is something marvelous and the hardness of the lead does not seem to reduce materially the copying qualities."

"WE find the little Dixon booklet 'Useful Spanish Words and Phrases' of value to us. The writer is about to go to the West Indies, Colombia and Venezuela, probably all of Central America and South Mexico. Have you anything further concerning the money of these countries?"—*L. Woodruff, Binghamton Whip Company, Binghamton, N. Y.*

## Hughes Used Dixon's

**W**HEN Hughie Hughes, on August 8th, started at the Antler Hotel and scooted to the summit of Pike's Peak in forty-five minutes, he traveled an onward distance of thirty and a half miles and an upward distance of 6000 feet. That's climbing even faster than the much-mooted cost of living.

In the old prairie-schooner days the slogan inscribed on the sides of some of the celebrated chariots was "Pike's Peak or Bust." So far as we know, Hughes didn't have any such sign on his Duesenberg when he started out on his mountain-climbing jaunt. But the situation was similar, and he went up like Old Sol boosts the mercury on a hot July day, without "busting." One big reason for his success was that his car was Dixon-lubricated throughout, just as it has been in all his races ever since he first tried Dixon's.

## Longevity

**T**HE dictionary gives the meaning of this word as "great age or duration of life; unusually prolonged life."

Professor Metchnikoff of the Pasteur Institute, Paris, has recently said that the principle of life is the secret of postponing death. He proved that the average death has been postponed from the fiftieth to the sixtieth year, and he said that the Methuselah would again be *not uncommon*; that man would learn to postpone death till one hundred, and then till one hundred and ten, and so on.

That is the way with Dixon's Silica-Graphite Paint. Some paints postpone corrosion of metal for a year, some for two years, without repainting.

Records show us that Dixon's Paint has added to the longevity of metal surfaces five and sometimes fifteen years of service under arduous conditions. This is due to its own elasticity, in forming a film that contracts and expands under heat and cold without cracking.

Be sure to use and specify none other than Dixon's Silica-Graphite Paint, and if your dealer does not carry it, order from us direct.

## New Crucible Plant

**A**S announced in the *New York Herald* of September 9th, the Joseph Dixon Crucible Company has purchased the plant of the Pacific Borax Company, situated on Westside Avenue, Jersey City. The plant, which has been vacant for several years, contains about eighteen acres with buildings, and is on the line of the Central Railroad of New Jersey.

The Crucible Company, which now occupies an area of about one million square feet in Jersey City, has found it necessary to enlarge its facilities. Alterations will be made in the buildings at the new plant, a number of kilns will be built, and steps taken in every way to put the Dixon Crucible Company in shape to meet all of the requirements of crucible users in the United States, as well as to meet its growing export requirements.

Deliveries from the new plant will be started about the first of the coming year.

## The Most Pathetic Thing in Domestic Life

**I**T seems that some time ago a lecturer in the midst of his discourse asked: "What is the most pathetic thing in domestic life?" He did not attempt to answer his own question, but the question caused considerable speculation among his listeners, and afterward, when they met, one suggested one thing and another some other thing. Among them were the following:

A pair of broken suspenders.

A phonograph.

Wife's first biscuits.

A gas meter that will not work.

A child of an afternoon-bridge fiend.

A lead pencil sharpened by your wife.

Daughter's first singing lesson.

A cold pancake.

The pay envelope at 12 o'clock midnight, Saturday.

Of course, he could not leave the lead pencil out.

## Dyke's New Automobile Encyclopedia

**W**E have had the opportunity to look through the fifth edition of Dyke's *Automobile and Gasoline Engine Encyclopedia*, which we find is a very complete exposition of the theory and construction of the present-day motor-car. The author and publisher is Mr. A. L. Dyke, E.E., 612-614 Roe Building, St. Louis, Mo. The book is a rather large volume, containing over eight hundred pages and many illustrations.

As the preface states, the reader can gain from the contents a general idea of the modern automobile, which can readily be applied to any specific make and model. The subjects are treated from the practical rather than the scientific standpoint.

The table of contents shows an exceptionally complete canvass of the automobile and the automobile field. Entire chapters are devoted to each of the principal sections of the car, such as engine parts, driving axles, differentials, carburetion, clutches, ignition systems, starting and lighting systems, etc. Lubrication, methods of operation and upkeep also receive their share of attention. These topics are well illustrated by diagrams and cuts of actual mechanisms.

After becoming perfectly familiar with his car, the owner can then turn the pages and find complete specifications of all the recent cars, a digest of automobile laws, useful tables and a dictionary. The garage man will find six chapters given over to useful hints for repair work.

A supplement which is now combined with the book, contains a thorough study of the Ford, King and Packard cars. Owners of these machines will do well to obtain this encyclopedia if only for these supplementary articles on their respective cars.

We have found the entire book to be very interesting and instructive and can recommend it to any one associated with automobiles.

If you like GRAPHITE tell us about it; if you don't tell us anyway.

## A Crucible Complaint and the Remedy

Suggested by a Well-known Expert after Visiting the Plant where the Complaint Originated

**C**ONDITIONS in this melting shop are far from ideal, so far as getting good service out of the crucibles is concerned.

Great credit is due to both Mr. R. and Mr. H. for the quantity and quality of the furnace output, for this work is being done under conditions which are astonishing when it is remembered that we made a study of this plant and made a report covering it. Below will be found a description of these conditions and recommendations for their elimination.

**"First. PRESENT CONDITION:** A steam-heated room is provided for storage and annealing of crucibles. This room never reaches the boiling point of water,  $212^{\circ}$  F., and is therefore entirely useless for the purpose.

**"REMEDY:** A drying and annealing oven of sufficient size to both store and anneal the necessary number of crucibles should be built immediately. It should be equipped with a furnace large enough to heat the entire oven to  $400^{\circ}$  F., thus insuring crucibles being properly dried when required for use. Without this oven the crucibles will never give 50% of the service they would under favorable conditions.

**"Second. PRESENT CONDITION:** Furnace linings are of very poor material, averaging only 127 heats per lining. This produces much slag in the furnace, interfering with the operation and therefore cutting down the life of the crucibles.

**"REMEDY:** Use a good grade of fire brick—this will reduce the slag in the furnace, give better working conditions for the crucibles and cut the lining costs in half.

**"Third. PRESENT CONDITIONS:** The coke is 72 hour, which is absolutely wrong for this service, as it is slow burning, requires high air pressure and slags badly.

**"REMEDY:** Use a 48 hour coke, running not over 10% ash and 90% sulphur. This will reduce the slag in the furnace and give the crucible a chance.

**"Fourth. PRESENT CONDITIONS:** The blast is supplied at 5 oz. This is a sure way to shorten the life of the crucible, as it keeps a large volume of unconsumed oxygen blowing through the furnace. This burns out the graphite rapidly, thereby reducing the life of the crucible.

**"REMEDY:** Cut the pressure down to  $\frac{5}{8}$  or  $\frac{3}{4}$  oz. and at that pressure supply 200 cubic feet of air for every pound of coke to be burned. This will give a quick hot fire, the coke will burn to a dry ash instead of slagging, and the furnace gases will be nearly neutral. This will be very favorable to a long life for the crucible.

**"Fifth. PRESENT CONDITIONS:** Crucibles are set in furnace with a cement of fire clay and sand between the lip and the crucible. This material soon fuses, runs out and down the side of the crucible, cutting a groove in it, thereby helping to start a crack.

**"REMEDY:** Use a cement compound of the same materials as the crucible and lip—*i.e.*, clay and graphite in certain portions about 1 to 10—or buy the crucible clay and graphite mixture from Dixon.

"The above conditions are facts and the remedies, which are nothing but regular shop practice, should be applied instantly as the high cost of crucibles and the increasing difficulty of getting them at any price make their conservation imperative.

"About the crucibles made of American clay. The first essential is a long and perfect annealing. All concerns should anneal all their crucibles for 30 days at a temperature of  $350^{\circ}$  F. The other essential is to wedge the crucibles as little as possible when in service and always remove the wedge when the furnace is shut down. We know of one concern treating its crucibles as above who secured over 21 heats per crucible for the last 250 made with American clay."

## Pension Laws

**S**OME writers are calling attention to the much talked of pension laws, claiming that it may be about time to call a halt in the passage of laws as a palliative against evil effects and to pass a few laws to remove the causes for these effects.

Our attention is now called to an article in *The Automobile Dealer and Repairer*, which says that every old-age pension law is an attempt to palliate an evil effect, and adds:

"All any worker has a right to ask is a sufficient wage to provide against want in old age, and having such a wage, if he does not make such provision, he has only himself to blame, and there is not the slightest reason whatever why the State or any individual or firm should come to his rescue. Pension laws are a check to thrift, foresight and industry, and should never be enacted except in case of war or a dangerous industry where bodily injury or physical incapacity results."

The same writer tells us that a more unsound or ridiculous instance of applied political economy than the minimum wage laws could scarcely be conceived.

Giving special favors of a benevolent form as a cure for the evil of lack of opportunity, yet by doing so still further increasing the lack of opportunity as well as in many instances putting a premium upon incompetency and discouraging effort, thrift and industry, is, according to the authority mentioned above, an absurd situation.

That the condition between capital and labor is not ideal, readers of GRAPHITE will undoubtedly acknowledge; that old-age pensions under the present conditions are necessary many believe. It may be that enacting laws will not remedy the evil, if evil it may be called, but that there will be a readjustment later on between capital and labor which will probably not come about until manufacturers and merchants know definitely what their costs are, and such costs become largely a matter of public knowledge.

## Didn't Dislike Her, But—

**W**HY do you dislike your teacher so, Willie?" asked his mother.

"I don't exactly dislike her, Mother," replied Willie, "but it's perfectly plain to me why she never got married." —Ex.

## Dixonites Who Pencilize the Country

*This is the twelfth of a series of articles featuring Dixon's Pencil Salesmen*



**T**HREE is not a traveling salesman that has the latch string thrown out to him more cordially than Howard A. Van Derslice, Manager of Dixon's St. Louis Office. This is the sentiment of a host of Dixon's customers, and when Van, as his many friends like to call him, walks quietly away with the "Bacon" there is a hearty ring of sincerity in the "Come Again" he is sure to receive.

Born in Granville, Ill., Van was brought up in an atmosphere which develops manly men of persevering courage and integrity. When a small boy his father's health necessitated a trip to Nebraska. The journey was made in a prairie schooner and Van proved himself a royal companion.

In those days Lincoln had no railroads, the nearest one being at Nebraska City via stage coach. There was a great scarcity of anything that looked like civilization. The Indians, clad only in blankets and feathers, visited Nebraska City for their rations.

In 1872 Mr. Van Derslice went to Chicago and has seen the Western metropolis grow from the ruins of the big fire. It is interesting to mention that when he was at the Moseley Grammar School in Chicago, among his schoolmates were Dudley and Horace Johnson, Manager and School Department Head respectively of Dixon's Chicago branch.

Van is well versed in the art of pencil selling from either side of the counter, having been prominently identified with several large concerns. When the St. Louis Stationers' Association make their annual pilgrimage to the National Convention and regale all the members with their good music, some of the choicest songs prepared have been dedicated to Van.

Those who have had the pleasure of meeting him and have enjoyed his hospitality intermingled with the best of stories and good cheer recognize in him a leader among salesmen as well as a prince of good fellows.

### Boiler Explosions in 1915

**T**HE LOCOMOTIVE, in a recent issue, gives the annual compilation of boiler explosions, listed by months, with the number of explosions, number killed, injured, and the total of killed and injured. This compilation is made as complete and accurate as pos-

sible, and it may be of interest to our readers to say that in 1915 there were 404 boiler explosions, 132 men killed and 236 injured.

In the summary of defects discovered by boiler inspectors, cases of sediment or loose scale, or cases of adhering scale, largely overtop all other defects. The need of some material to prevent the formation of hard scale is evidently most apparent, and it is the belief of many that there is no material quite so efficient in preventing the formation of hard scale as fine flake graphite.

### Hawaii

**T**HE *Pacific Commercial Advertiser*, Honolulu, in telling of the effect of the Panama Canal on Hawaii and in giving the people of the United States an idea of where Hawaii is and what it is (for so few of us seem to know), says:

Intelligent understanding of this subject requires a brief résumé of the location and conditions in the territory.

Hawaii is not a possession, a colony, or a dependency. It is a full-fledged territory of the United States.

It is located 2,080 miles southwest of San Francisco, its nearest neighbor, and has an area of 6,649 square miles, equal to 4,127,000 acres. This area is a little larger than the States of Connecticut and Rhode Island combined, and a little smaller than the State of Massachusetts.

There are eight principal islands, extending over a distance of three hundred miles, running southeast and northwest. There are a number of small islands and reefs extending westerly for a thousand miles.

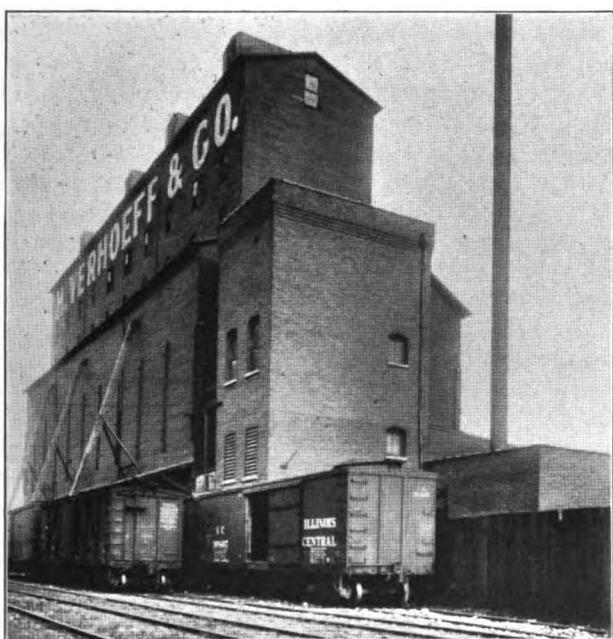
Honolulu, the capital and principal port, is located on the island of Oahu, about the middle of the group. Two active volcanoes are on the island of Hawaii, 200 miles from Honolulu.

The islands are almost entirely volcanic in formation, being tops of mountains rising 15,000 to 20,000 ft. from the bottom of the Pacific Ocean, to heights varying from 4,000 to 13,825 ft. above sea level. The two highest mountains are nearly always capped with snow.

The moisture-laden winds blowing in from the warm ocean, meet the high, cool mountains, and cause excessive condensation on the windward side of the islands, resulting in heavy rainfalls and erosion of the mountains, thus creating a great number and variety of valleys, precipices, waterfalls and jagged mountain peaks, covered in places with forest and jungle, luxuriant as in any tropical country, and elsewhere contrasting with bare and barren peaks thousands of feet high, of an alpine character.

The arable land is chiefly in the valleys and along the sea coast.

Hawaii appeals to the stranger from many standpoints—its grand mountain scenery; its magnificent precipices; its waterfalls, falling sheer a thousand feet into the blue ocean; its awe-inspiring active volcanoes; its sea-bathing; its surf-riding; its social life and up-to-date conveniences; but after all, the one point upon which it can preëminently base its claim of superiority over every other country, is its climate.



**Grain Elevator, Louisville, Ky.  
Painted with Dixon's Silica-Graphite Paint**

H. VERHOEFF & CO.,

PROPRIETORS OF LOUISVILLE ELEVATOR,

Louisville, Ky., Aug. 4, 1916.

Joseph Dixon Crucible Company,  
Jersey City, N. J.

Gentlemen:—

It gives us pleasure to state that we have been using Dixon's Silica-Graphite Paint on our Elevator for a number of years, and we have found it the most serviceable paint for the purpose which we have ever used. It lasts well, thoroughly protects the wood and iron work. We consider the paint satisfactory in every particular.

Yours very truly,

H. VERHOEFF & Co.

A testimonial from so reputable and well-known a concern in the grain trade as H. Verhoeff & Company, should be sufficient.

Dixon's Silica-Graphite Paint is the most popular paint for grain elevator use for many reasons, namely:

It LASTS LONGER.

It is MORE ECONOMICAL per year of service.

Its pigment is practically inert.

It best withstands dampness, acids, gases, grain dust, etc.

Equally suitable for wood or metal.

ONE QUALITY only—the BEST, for over fifty years.

Used world-wide by most reputable concerns.

Therefore, be sure to specify and use this standard paint on your next paint work. If your local dealer does not carry it, please write the Dixon Company direct.

**Efficiency?**

**RAILWAY AND LOCOMOTIVE ENGINEER** has evidently been buncoed by some efficiency expert, or else the warm weather that we have had this summer caused the efficiency germs in our "esteemed contemporary" to rebel.

*Railway and Locomotive Engineer* tells us that articles, pamphlets and books have come to them, in an endless array, all harping on efficiency. As long as such publications dwelt on mute, insensate things they were given respectful attention, but when they touched flesh and blood they were found largely misleading, and unworthy of any serious attention. Our E. C. contends that if the average man is well treated he will do his best, and angels can do no more. If the average man is driven beyond his speed, a revulsion sets in, and he becomes discouraged. Yet in spite of this well-known fact, there are books which tell us how a mechanic should stand at his work, how far his feet should be apart, what particular curve his hammer should describe in descending upon the head of a chisel, with the variable angle inevitable on the recoil of the hammer, and the degree of the muscular tension incident to the succeeding blow.

In the experiences of our E.C. in railroad shops, and elsewhere, observations have been made of these misguided parasites. The efficiency man generally comes in the shape of some college fledgling full of theories and self-conceit. Some aged relative pulls a stroke on the board of directors and the young bag of wind is appointed as an efficiency expert. Through his glorified spectacles he sees a gray hair here and there, on the heads of some of the mechanics of whose skill he can know nothing, but they become like spotted leopards in his eyes. They must be replaced. He sees others in the tool room, waiting a minute or two for a certain tool, and the bright idea flashes upon him that boys can do that. Then there are two men at the grindstone, one waiting until the other is finished, and the vision of saving three minutes flashes upon him in the shape of improved methods. His chief idea seems to be to keep the noses of the toil-worn mechanics on the grindstone. Accomplishment in final results is beyond him. His methods are microscopic. Like a drill sergeant he must get rid of the individuality of the recruits. His success is not visible to the naked eye, but to sustain his mental attitude he must needs blossom into print, and so the pamphlets come on in unbroken succession.

He should take a rest, and give other people a rest.

ACCORDING to *Outing* one pound of gasoline contains 14 million foot-pounds of energy, a higher potential than that of dynamite.

One pound of liquid gasoline requires 189 cubic feet of air for complete combustion, or one part gas vapor (by volume) to 7.3 parts air. In actual practice, however, an excess of air is generally needed, so that the standard ratio of gas to air is 1:10.

THINK of Dixon's Graphite Automobile Lubricants.



### Forest Lawn Cemetery, Buffalo, N. Y.

**T**HE ornamental iron fence illustrated above is painted with Dixon's Silica-Graphite Paint.

Dixon's Paint is made in four colors, Natural (or Slate), Black, Olive Green and Dark Red. Any one of these colors is neat in appearance and in every way ornamental.

Paint tests on similar fences prove that Dixon's Silica-Graphite Paint, when properly applied, and when sufficient time is allowed for the drying of the paint between coats, furnishes not only a neat appearance, but a durability not found in other protective paints. The above illustration is only one of many that we have on file.

If your dealer does not carry Dixon's Paint, communicate with us direct, and also ask for literature.

### What Statistics Indicate

**I**N a personal letter by Roger W. Babson, he has this to say:

"It is hard to realize that the war has been going on for over two years. The real fact is that very few in this country truly realize that there is any war at all. Ninety-five per cent. of us act as if the limits of the world were identical with the limits of our own country; seventy-five per cent. of us consider our State to be the whole country; while a majority of our people seem to lack real interest in anything beyond their immediate neighborhood, business, and families."

"This country has reached the point where its future prosperity depends more upon spiritual than upon material qualities. We have everything in abundance, from money to mills and from materials to men, but we lack the right point of view. The future of business conditions in the United States depends on whether or not our people get this right point of view. Above all,

let us read the handwriting upon the wall, which appears to me to demand: Integrity—Efficiency—Economy.

"Let us consider the mercantile situation, for instance. No such abnormal boom in business exists today as many would have us believe. It is true that bank clearings are running exceedingly high, but bank clearings are the product of two factors: namely, volume and price. Statistics clearly show that the present heavy clearings are largely due to high prices. It is true that the balance of trade in our favor is very great, but this has been largely due to abnormally high prices. Besides, the balance of trade is a poor barometer of the real volume of business. So far as this increased foreign trade is due to the sale of munitions and war supplies, it will do us no good. These munitions are simply being used to destroy our customers, and even a large portion of the money received in payment is being loaned back to foreign nations for the continuance of the war. We are really 'killing the goose which lays the golden egg.'

"I believe that this country is profit-mad, and that eventually there will be a drop in commodity prices which may carry them as much below normal as they are now above normal. On the other hand, I am not pessimistic as to the immediate volume of business. If the business interests were not going crazy over prices and profits, I should even be optimistic on the immediate mercantile situation. For this reason, the wise manufacturer and merchant will continue to make hay while the sun shines, but will keep his stock cleaned up and be prepared for a sudden slackening in business as soon as there are any definite signs of peace.

"Briefly, everything depends upon the duration of the war. So long as the war lasts, general business will continue good; but the longer it continues, the worse the depression will be after the war is over. While the war is going on, commodity prices will hold fairly high; but the longer the war, the greater will be the drop in commodity prices at its close."

### In the Woodless Age

**W**HEN everything's made of concrete  
In a world where there's nary a stick,  
The child that has been indiscreet,  
Will have to be spanked with a brick.

—C. L. Edson.

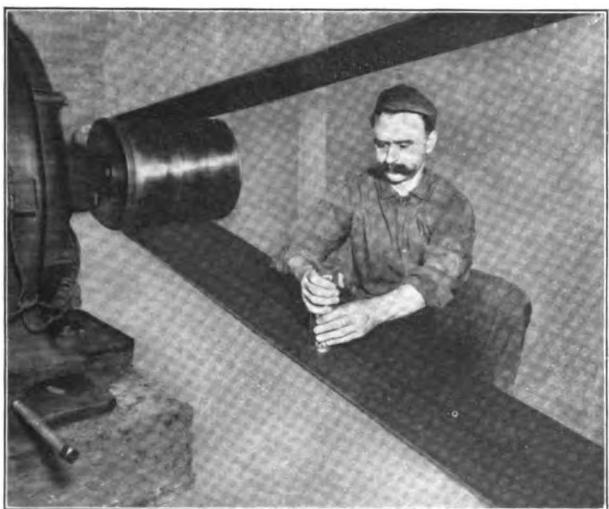
◆ ◆ ◆  
LET me but find in my heart to say,  
When vagrant wishes beckon me astray;  
This is my work, my blessing, not my doom;  
Of all who live, I am the one by whom  
This work can best be done in the right way.

—Henry Van Dyke.

◆ ◆ ◆  
ONE sadly sees the setting sun  
And views his day's work with a sigh;  
Another drops his tools to run,  
Nor cares how little he has done.

And people still go asking why  
Some men are down and some are high.

—S. E. Kiser.



### Want More Work from Your Belts?

**Y**OU can get it, if you treat them right—fibres soft and pliable—surface smooth and adhesive without being sticky—everything just right to get all the “pull” there is in them.

**DIXON'S SOLID BELT DRESSING** enables you to accomplish just these things, in the easiest, cleanest way. It comes in handy sticks that you can rub on the belts while they are running. And it is equally good for leather, rubber or fabric belting. It saves power and it saves the belting.

### The American Commercial Club of Buenos Aires

**M**ANUFACTURERS and merchants of the United States may congratulate themselves on being so well represented in South America through the large and active membership of “The American Commercial Club of Buenos Aires.” On August 4th a brilliant farewell banquet was given by the members of the above Club to Dr. Albert Hale, the American Commercial Attaché of Buenos Aires, on the occasion of his approaching return home to enjoy a well-earned leave of absence, and by way of testifying the appreciation of the Club to Dr. Hale, both personally and officially.

After pleasing addresses by Mr. James A. Wheatley, President of the Club, and Dr. Hale, Mr. Alfred J. Eichler, representative of the Dixon Company, who is the Honorary Secretary of The American Commercial Club of Buenos Aires, gave a brief outline of the work which the Club is doing and what it proposes to do.

He said: “The Club is not a more or less inactive Club, as too many commercial clubs and Chambers of Commerce are. On the contrary, it is intensely active—it has an active secretary who is present at the Club during the entire day. The Club is a member of the United States Chamber of Commerce and its correspondence with the United States Chamber of Commerce as well as with other parties in the United States and in the Argentine has increased to such an extent that Mr.

Haxtun, the active Secretary, has found it necessary to spend his evenings at the Club as well as during the day in trying to keep up with the work.

“The Club meets regularly, and is working along broad lines for the development of American commerce. It has also handled various complaints in a manner very satisfactory to all parties concerned.

“The Club is being actively used by the members as a meeting place, and is also being used considerably by persons who are not members of the Club, both of American and other nationalities, as a source of information.”

In his address Mr. Eichler said that at the suggestion of the Board of Governors of the Club he had been instructed to write a letter to the Chamber of Commerce of the United States, which letter he read to the members and guests attending the banquet.

The letter is too lengthy for us to reproduce in GRAPHITE, but it was to the intent that for the proper development of the American export business in the United States and to answer fully and completely the many questions sent them by manufacturers and merchants and others in the United States, it would be quite appropriate for the United States Chamber of Commerce “to create a fund which could be subscribed to by the various organizations which are members of it, and this fund to be distributed amongst the various commercial organizations in different parts of the world, who would be willing to undertake to answer such questions as they could reasonably be expected to answer that would originate from the members of the Chambers of Commerce which are members of the United States Chamber of Commerce.

“The amount of money necessary would of course depend on how many questions were sent, and the amount of work necessary to gather the information to answer them correctly and completely. The money of course would not be used for any purpose except for the maintaining of the secretarial organization necessary to gather the information and the actual work of answering the requests for information.”

### Those Vacation Pictures

**D**ON'T let the memory of that happy vacation fade by neglecting those pictures you took. Many people just get their vacation films developed and printed and then stick them in an envelope and forget them, thereby losing half the good of vacation time.

The better way would be to buy one of those gray albums and mount all of these summer pictures. If a Dixon's Best White No. 352 is used, a little memo can be written for each picture, or the autograph of a particular friend can be put in.

Dixon's Best White Pencil writes the same way as any other pencil. It writes a clear white and besides the use in the photo album there are many places around the house where it can be used, especially in the sewing basket for marking patterns on dark cloth.

Send us ten cents for a sample.

## Keeping the Motor Car Fit

**I**S the title of a very interesting and instructive booklet which has recently been brought to our attention. The author is Mr. R. A. Leavell, Associate Professor of Mechanical Engineering in the Iowa State College at Ames. The book is a collection of short articles on automobile maintenance which appeared in *American Farming* and is issued by the American Farming Publishing Co. of Chicago.

The subjects of tire care and repair, lubrication, starting and lighting systems, care of the cooling system, yearly overhauling and many other allied topics are explained in language which can be readily understood by the layman. The booklet is thus of especial worth to those who keep their own cars in repair. We quote below a few extracts which will be of particular interest to the readers of GRAPHITE.

" . . . The lubrication of the springs receives no attention on many cars. Grease cups on the pins which go through the spring eyes are generally given an occasional filling or turning down, but it is seldom that any lubricant is put between the leaves to reduce friction and silence the squeaks. . . . If they are rusted and rough instead of smooth and coated with some lubricating medium like oil, grease or graphite, they will offer unnecessary resistance. This will make the car ride hard and will cause extra wear and tear on the tires and on the mechanism of the car."

"An old screwdriver in which the metal comes out through the back of the handle [any other piece of steel sharpened to a wedge point would answer the purpose] has been driven between the leaves to separate them so that a paste of grease and graphite can be spread between them with an old knife. Since the leaves will come together and throw the grease several feet when the screwdriver is withdrawn, care should be taken to be out of line. After the grease has been inserted between the leaves of all the springs, the next thing to do is to rock the car violently back and forth to work the springs a little. While this is done the squeaks which come from the springs and the body can be located. Riding will be more pleasant without the 'little birds' singing all the time."

" . . . Finely divided graphite has wonderful lubricating properties in itself, because of its ability to fill up all of the very small inequalities in the surfaces which work against each other. In the universal joints, where the pressure is very high and there is a noticeable tendency to squeeze the grease out from between the surfaces, graphite grease is especially to be recommended. It is also superior to plain grease for use between the leaves of the springs, on spring shackles, on water pump glands, on the steering knuckle pins and other steering connections, and on other parts exposed to the action of dust and water. When mud dries on parts lubricated with ordinary grease, it absorbs the grease just as sawdust would. Much of the graphite remains and insures lubrication after the grease is gone. Graphite is often mixed with the heavy oil or the grease for the transmission and differential to reduce friction between the gear teeth. Whether it has any

harmful effect on the ball or roller bearings is hard to prove. Its use can do harm if it is impure and contains gritty matter."

The last statement in the preceding paragraph touches on a very important point. There is as much difference between high grade and low grade graphite as between black and white. The higher grades are soft, smooth and of great value as a lubricant; the lower grades not only lack these qualities but are actually abrasive.

The disastrous results attendant on the use of the lower grades for lubricating purposes have led some operators to thoughtlessly condemn the use of all graphites. The high grade selected flake graphite prepared by Dixon especially for lubricating purposes contains no injurious ingredients. Many years of satisfactory service on ball and roller bearings have proven its worth for this class of work.

## See and Know Your Own Country

**S**OME years ago a lady living in a small country town in New Hampshire, on the death of her husband decided to take her daughter abroad to educate her. They visited London and Paris, and finally settled in a pleasant little town in Germany where the daughter studied music, drawing and other useful accomplishments.

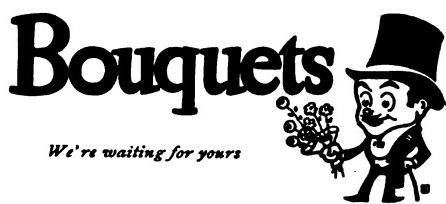
One day, while on a trip up the Rhine, the lady and daughter were not only very much interested in the scenery, but grew especially enthusiastic. An elderly gentleman standing close by (evidently a German of the higher type), spoke to them in English and said, "Madam, you and your daughter seem to be intensely interested and very enthusiastic over what you are seeing, but if you will pardon me, may I ask if you have ever been up your own glorious Hudson? For I take it from your language that you are Americans."

The lady acknowledged that she never had been up the Hudson River. "Perhaps then," he said, "you have visited Niagara Falls; perhaps, again, you have been through the wonderful Colorado canyons and over the Rockies; perhaps you have visited those wonderful National parks in the United States?" In some confusion the lady acknowledged that she had never been beyond her own native town further than Boston, whence she had taken ship abroad.

"Ah, my dear madam," said the German, "that is the trouble with you Americans. You have a most wonderful country, and then you have near you Canada, Mexico and the West Indies, but yet you will come at once over to this continent where you do not even speak the language of either France, Germany or Italy, and you get so enthusiastic over what you see here, when you have things far more wonderful in your own country."

In relating this to the writer in after years the lady told how thoroughly ashamed she was, and she added, "Do you know that German had visited all the places that he mentioned and he spoke English, French and Italian as well as his own native German."

This is only one of many instances from which Americans may well take a lesson.



"AND just by way of a remark, I have just rec'd my first copy of GRAPHITE. It's some 'nifty' little sheet, and you can put me on your sub. list any old time, just so I don't lose any of the good things. With best wishes, I am," etc.

"AMONG the many and varied trade publications that come to my desk I always look forward with pleasant anticipation to the arrival of GRAPHITE, which you have been kind enough to favor me with for the past three years.

"The present number (July) is especially a live one.

"Do not let my name slip from your mailing list.

"We are users of 'Eterno' and 'Anglo-Saxon' pencils, also No. 365½ Leads."—S. A. Burns, Whitefield Manufacturing Co., Whitefield, N. H.

"I WISH to tell you how glad I am to receive a copy of your publication GRAPHITE each month, and find it very interesting and brimful of good newsy news."—H. F. Collins.

"I ENJOY reading GRAPHITE, and trust that you will see fit to keep up the record made, both by your products and interesting paper."—Z. J. Gervais, Master Painter, Colo. Midland Ry.

"PLEASE stop sending me GRAPHITE until further notice. I will not have any address for a month or so and I think GRAPHITE is too good a thing to send out and no one to receive it."

"I ALWAYS find something encouraging in GRAPHITE, something I must cut out to keep before me, such as 'Improve your Mind,' in the February issue. The articles for the trade are always so convincing that I always read them too."—(Mrs.) A. R. Smith, 7110 Cresheim Road, Mount Airy, Pa.

## For Better or Worse

CUPID is either careless of where he shoots, or else he is impartial. This time Cupid's arrow was winged toward the 'Frisco Branch of the Joseph Dixon Crucible Company, and Mr. Lloyd Alvin Wagner was the "happy recipient."

Mr. Lloyd Alvin Wagner, who is well and most favorably known throughout the stationery trade of the 'Frisco territory, was married on Saturday, August 26th, at Oakland, Cal., to Miss Florence Richter, daughter of Mr. and Mrs. William F. Richter.

Mr. and Mrs. Wagner for their honeymoon will make a business trip over Mr. Wagner's regular route, taking in Salt Lake City and from there on through the Northwest to Butte, Montana, Spokane, Seattle and Portland.

The trade will probably remember the fact that it takes a little more to keep two than one and, therefore, will be glad to double up their orders. GRAPHITE wishes the couple many years of happiness.



## ECONOMY and LONGEVITY



## DIXON'S Silica-Graphite PAINT



lasts longer and costs less per year of service.

*Insist on Dixon's*



Made in Jersey City, N. J.,  
by the



JOSEPH DIXON  
CRUCIBLE CO.  
*Established 1827*



## GOLDEN bouquets

OR WHY

### DIXON'S ELDORADO

"The Master Drawing Pencil"

## SHOULD BE USED

"WE have used the 'Eldorado' pencils which you sent us some time ago, and all of the parties who used these pencils are very much pleased with them, and they compare most favorably with any hard pencils we have ever used. We expect to use them from now on in our offices."

"I TAKE pleasure in saying to you that the pencils sent me as samples are exceptionally fine. The 'Eldorado' is smooth and free from grit, which sometimes spoils leads."—J. C. Varney, Professional Photographer.

"I TRIED out the sample pencils sent to me recently and must say that the 'Eldorado' is truly the master drawing pencil of the present time."

"AFTER giving your pencil a liberal test I find it to be of the very best on the market. It comes up to every point of merit and I shall endeavor to continue its use. Any consideration on your part to place this pencil on market in Birmingham will be appreciated."

"WE have received the sample pencils and our retouchers think they are fine."

"IT gives me pleasure to recommend your drawing pencils No. F and No. 4-H for their fine grain and even texture of lead."—S. C. Miner, Draftsman.

"THE samples of pencils received and tried out, and find them very satisfactory, the lead being the smoothest and strongest I ever used."

"WE wish to acknowledge with thanks the receipt of 'Eldorado' pencils. We have tried these pencils out and find them very satisfactory."



THE good appearance of your ornamental fences can be maintained for a longer period at lower cost by the use of

# DIXON'S Silica Graphite PAINT

"THE LONGEST SERVICE PAINT"

The standard of OVER FIFTY YEARS for protecting metal work of all kinds. The J. W. Fiske Iron Works, who designed and erected the above fence, are extensive users of Dixon's Silica-Graphite Paint, because long experience has convinced them that it is the best protective coating for use on wire-mesh and wrought-iron fencing, posts, gates and all metal work. Send for our interesting Booklet No. 190-B, which is full of valuable information.

# Graphite

NOVEMBER, 1916

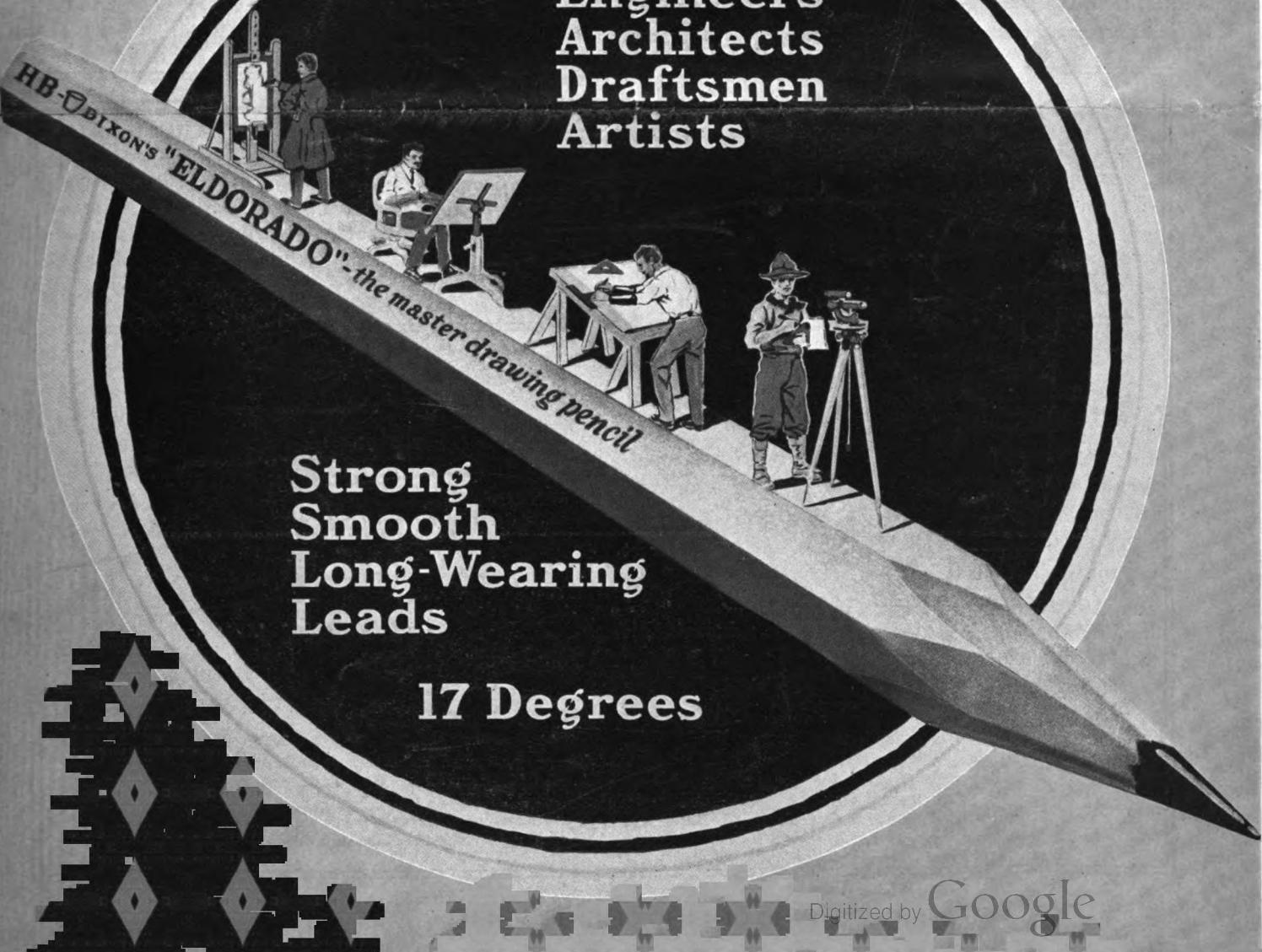
No. 11

VOL. XVIII

NOV 18 1916

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*For*  
**Engineers  
Architects  
Draftsmen  
Artists**



## Graphite

THE first issue of *Graphite* was made in December, 1898. *Graphite* is the house organ of the Joseph Dixon Crucible Company, and in all these years *Graphite* has never missed an issue.

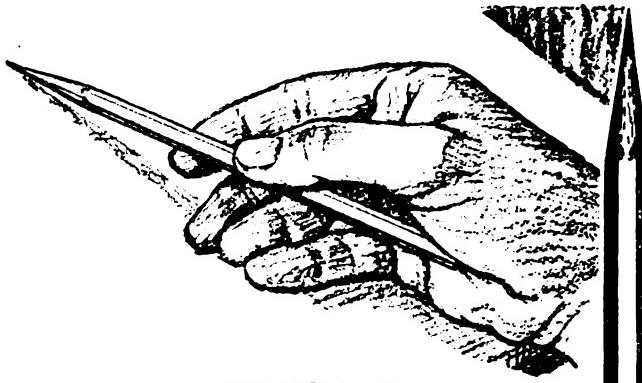
*Graphite* has been sent out by the Dixon Company as a bearer of information relative to the different forms of graphite and to the different graphite products made by the Dixon Company.

### NOW

won't you help us to make *Graphite* better by telling us how we can improve *Graphite* to make it more interesting to you? Wherein does our weakness lie?

Do you believe a house organ like *Graphite* is of advertising value to us and to you? We think it should be if properly conducted.

If not asking too much of your time, we would greatly appreciate a few helpful lines from you.



## DIXON'S ELDORADO

"the master drawing pencil"

### RESPONSIVE

To the lightest touch, to the most delicate shading, to every expression of thought, Dixon's Eldorado is responsive in never-failing quality. In the 17 degrees it offers every class of lead for the artist who chooses his pencil as he would his subject.

Write us on your letter head for full-size samples of your favorite degrees.

### JOSEPH DIXON CRUCIBLE CO.

Dept. 190-J  
Jersey City  
New Jersey

DIXON'S BEST WHITE N° 352  
white white

## JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED 1827 Jersey City, N. J., U. S. A.

INCORPORATED 1868

 Miners, Importers and Manufacturers of Graphite, Plumbago, Black Lead



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# Graphite

November - 1916

Vol. XVIII - No. 11

## A New World's Record for 250 Miles

ON Saturday, September 30, at the Sheepshead Bay Speedway, John Aitken in a Peugeot drove his way to a new World's Speedway Record for 250 miles by maintaining an average of 104.83 miles an hour for the entire distance.

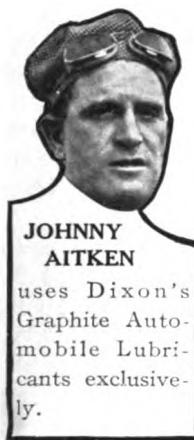
The race was a remarkable one from several standpoints; new records were made for the 50, 100, 150 and the 200 mile marks. Two cars in the race averaged more than 100 miles an hour. All of the cars that finished in the money averaged better than 90 miles an hour. All of the 14 cars that finished were lubricated with DIXON'S GRAPHITE AUTOMOBILE LUBRICANTS.

The fact that Aitken did not stop once in the entire 250 miles speaks mighty well for the lubricant he used. DIXON'S Automobile Lubricants made this World's Record possible. Here is a great national lesson for every driver of every car. For safety, easy driving and longer life of your car use DIXON'S GRAPHITE AUTOMOBILE LUBRICANTS.

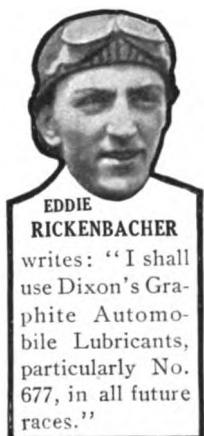
	Miles per hour
Peugeot-Aitken	104.83
Maxwell-Rickenbacher	103.90
Hudson-Vail	97.40
Delage-LeCain	97.00
Mercer-Pullen	95.20
Crawford-Klein	94.80
Delage-Devigne	94.60
Duesenberg-Mulford	92.30
Hoskins-Hughes	92.10
Duesenberg-Milton	90.60
Pugh-Meyer	89.90
Adams-Adams	85.80
Crawford-D'Alene	81.70
Ogren-Burt	80.50

A complete victory for DIXON'S GRAPHITE AUTOMOBILE LUBRICANTS.

"Words of Wisdom from the Speed Kings" mailed on request.



JOHNNY  
AITKEN  
uses Dixon's  
Graphite Auto-  
mobile Lubri-  
cants exclusive-  
ly.



EDDIE  
RICKENBACHER  
writes: "I shall  
use Dixon's Gra-  
phite Auto-  
mobile Lubricants,  
particularly No.  
677, in all future  
races."

## Complaints Against American Manufacturers

IN spite of all that has been written and all that has been said in the way of earnest requests, and ridicule and sarcasm, it does seem as though American manufacturers would never learn some of the very first principles in doing foreign business. It is not only annoying but very irritating to foreign merchants to receive letters with insufficient postage.

The Bureau of Foreign and Domestic Commerce of the United States has done its best, through its printed matter, to educate the American manufacturer in the matter of foreign business—not only in the matter of postage, but in packing, letter writing, etc., etc. The story has been told of the captain of an English steamer at Buenos Aires who, when asked what fuel he used, said, "Mainly printed matter sent down here with short postage, or printed in English which no one could read, and which was refused at the post-office by the Buenos Aires merchants."

United States Commercial Agent Ralph M. Odell, in a letter under date of January 22d to the Bureau of Foreign and Domestic Commerce of the United States, speaks of the repetition of the old complaint regarding insufficient postage on letters, an unfortunate practice which seems to persist in spite of the plan of the post-office to return letters to the firms despatching them when they do not have sufficient postage. Mr. Odell tells us that he was in the office of a large importer when his mail from the United States arrived. Of the 14 letters which he received, 10 of them had only two-cent stamps, 1 had no stamps at all, and only 3 had sufficient postage. In looking over the letters, Mr. Odell was surprised to find that several of them were from large firms that have been engaged in export trade for years. The importer told Mr. Odell that the same thing happened with every mail, and it naturally caused him considerable annoyance. Mr. Odell made the very reasonable explanation to the importer that the fault was often due to the carelessness of the clerk, but he maintained that firms who did not take care to see that their letters to foreign countries carried sufficient postage were not the sort of firms with which he would care to do business.

The importer also explained to Mr. Odell that a great many letters received were improperly addressed. Other complaints were made which showed that there is still much for the American manufacturer to learn if he expects to do an export business, and to do it against English and German competition.

### Dixon's New Building

**O**VER 25 miles of piles have been driven into the ground as part of the foundation for the new Dixon storage and stable building. The structure will be 210 x 199 feet and 3 stories high. The piles are of southern pine and are 1825 in number. They will average 75 feet in depth.

### Recommends Dixon's Boiler Graphite

**W**E have used Dixon's Boiler Graphite No. 2 in our boilers for the last two years—a large part of which time our boiler feed water has been heavily impregnated with salt, lime and magnesia, which would cause very heavy scale deposit on boilers.

The use of Dixon's Boiler Graphite has largely overcome our trouble in this respect, much more so than the use of any boiler compound we have previously used, and we cheerfully recommend Dixon's Boiler Graphite to any one having trouble with scale formation in boilers.—*Consumers Ice & Cold Storage Co., Benj. D. Trevor, Gen'l Manager, Key West, Fla.*

### New York Factories

**V**ERY few people ever give thought to the number of factories in New York City. When the question is asked, "How many factories do you suppose there are in the City of New York?" the answer usually is, "I have no idea, but very few—maybe a hundred." The highest estimate that we have heard was one thousand.

According to the statistics furnished by the Merchants Association of New York, there were in 1914, 29,621 factories in the five boroughs of New York City, with 732,719 employees, upon whom double that number are dependent.

### Sufficiency

**T**HE Husband—"You never kiss me except when you want money."

The Wife—"Well, isn't that often enough?"

### Proper Goggles for the Eyes

**I**N an interesting article in the *American Machinist* on a new phase of the goggle question, some interesting things are said in regard to eyes and light rays.

Oculists tell us that the ultra-violet light ray is the most harmful. A careful study of the ultra-violet light ray and all harmful light in general has been made for the purpose of producing a scientifically correct colored glass for the eye.

It is stated that over ninety per cent. of the colored glasses in use to-day to protect the eyes from glare are not only inefficient, but are decidedly injurious.

The light rays that are so harmful to the eyes are found particularly in the flames and lights used in industrial processes. The oxyacetylene flame is rich in the very harmful ultra-violet ray and the carbon arc even more so.

The cobalt-blue glass, which has been used quite largely for protection to the eyes, is found to transmit the harmful rays almost as freely as clear glass, even though the eyes may not detect the glare and the operator makes no complaint as to using them. Unfortunately, the eye alone is incapable of selecting the best glass, because the harmful rays are largely invisible and slightly varying colors may be very different in their effect on the eyes.

Some idea of the effect of the ultra-violet rays on the eye may be realized when we learn that it is these rays in sunlight which produce sunburn. In a similar way the outer membrane of the eye may be destroyed by the radiation from the quartz mercury arc, the carbon arc, or the oxyacetylene flame. Proper colored glasses in goggles will neutralize the most dangerous light rays.



In the very beginning of the republic of these United States the founding fathers took cognizance of the necessity of business activity and attending success in making for the good fortunes and advancement of the people. They saw then, as we know now, that there is nothing incompatible in manufacturing suc-

cess and the promotion of human rights; on the contrary, they are inseparable.

### Know Where You Stand

**E**VERY business man should know on what articles he is making a profit and on what articles he is incurring a loss.

A large proportion of manufacturers are not making the money they should. A great number of them are actually losing money.

The purpose of conducting a business is to make money, and the only way to make money is to sell something for more than it costs.

The Federal Trade Commission, Washington, D. C., has found that an amazing number of manufacturers, particularly the smaller ones, have no adequate system for determining their costs and price their goods arbitrarily.

A pamphlet has been prepared under the direction of Edward N. Hurley, Chairman, by Robert E. Belt, Chief Accountant, and R. W. Gardiner, Assistant. It may be obtained without cost by addressing the Federal Trade Commission, Washington, D. C.

Most manufacturing plants have grown to a size which renders personal supervision impossible. The only reliable way, therefore, by which an executive can judge of the efficiency of an organization is through a system of periodical statistical reports. These reports can be accurately obtained only when a good cost system is in operation.



Be careful of your health.

Save your pennies.

Watch the people who want to take your money from you. The more money you get, the more such people there will be.

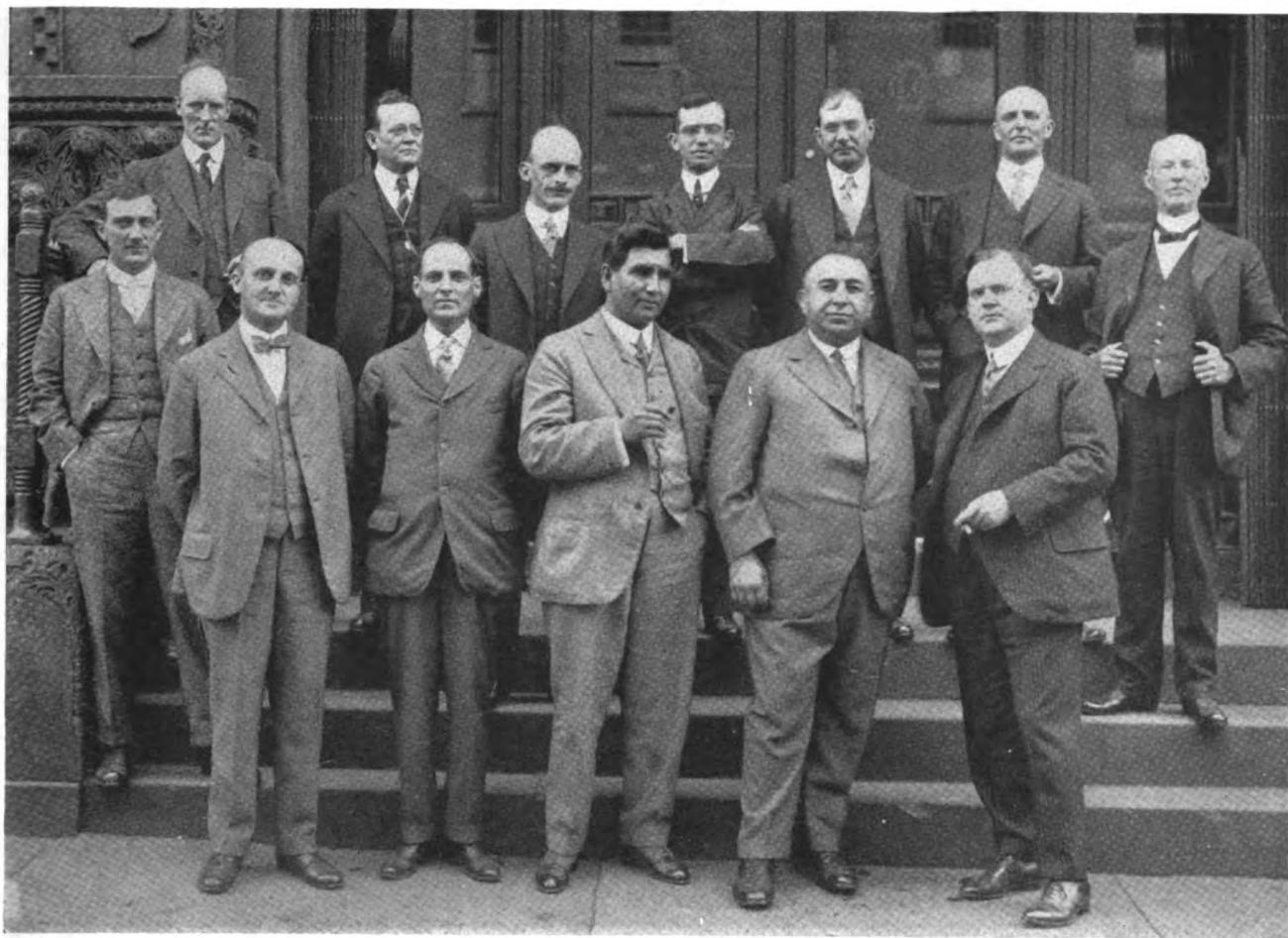
See that your head is not lame; it doesn't matter about your legs.

Learn to know good people from bad.

Take good care of your money. It isn't half as hard to earn it as it is to take care of it.

Be sure not to put all your money eggs into one basket.

Be reliable—that is the Golden Rule of Business.—*Said to be from Hetty Green.*



**Dixon Entertains Latin-American  
Representatives of the National Paper  
and Type Co. of New York**

THE Joseph Dixon Crucible Company regard themselves fortunate to have as the representatives of their Pencil Department in Latin America, the excellent sales organization of the National Paper & Type Co.

Nearly all of the branch managers of the National Paper & Type Co. were in convention at the home office in New York, in September, and by arrangement with Mr. H. H. Meyer, Manager of the Paper & Stationery Department, it was the privilege and pleasure of the Dixon Company to entertain them on Thursday, September 21st.

The delegation arrived at the Dixon Company's Main Office in Jersey City about 10:30 A.M. and was conducted by Mr. R. Van Dien through the Pencil Department of the Dixon factories.

After lunching in the Dixon dining-room, the photograph presented herewith was taken, showing the men standing on the steps leading to the main entrance to the Dixon offices. In the photograph will be seen the following gentlemen:

Back row, reading from left to right:

Mr. Robt. H. Beals, Representative in Brazil

Mr. E. F. Scott, Manager, Guadalajara, Mexico

Mr. Geo. G. Cobean, Manager, Buenos Aires, Argentina

Mr. Herman Price, Manager, Dixon's Pencil Department

Mr. I. H. Jacobs, Manager, Mexico City, Mexico

Mr. F. P. Mattox, Manager, Havana, Cuba

Mr. R. Van Dien, Dixon's Pencil Department.

Front row, reading from left to right:

Mr. B. H. Jacobs, Manager, Monterey, Mexico

Mr. A. J. Pfaff, Dixon's Pencil Department

Mr. C. G. Valadez, Manager, Guaymas, Mexico

Mr. T. N. Rivera, Manager, Lima, Peru

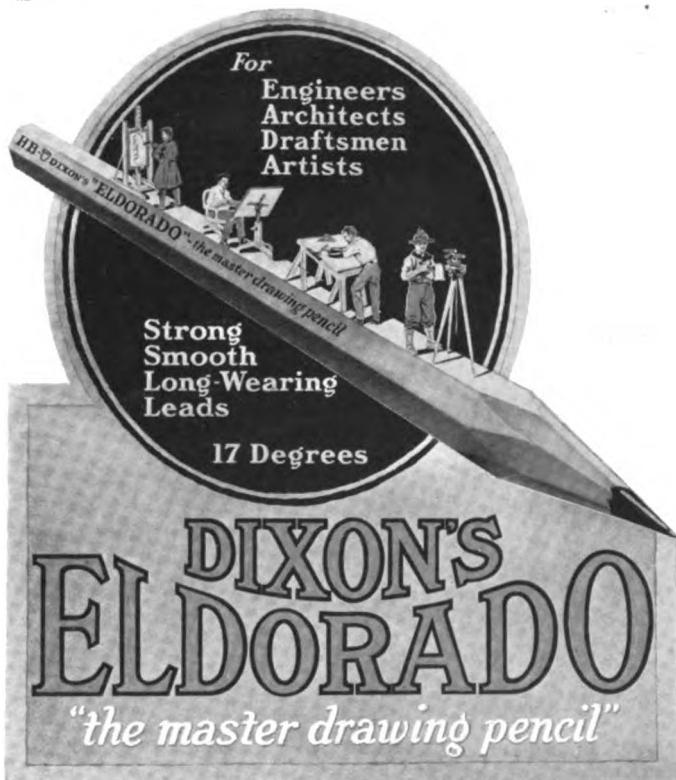
Mr. H. H. Meyer, Manager, Paper & Stationery Department

Mr. J. H. Schermerhorn, Treasurer, Joseph Dixon Crucible Co.

With the photographer's duty performed, the visitors settled down to a full afternoon's conference regarding matters relating to Dixon's Pencils, Erasers, Crayons and Penholders in Latin America. The conference was presided over by Mr. Herman Price, assisted by Mr. A. J. Pfaff, recently promoted from the Dixon Philadelphia office to the position of Special Representative of the Pencil Department at the Main Office.

In the evening the representatives of the National Paper & Type Co. and their wives were the guests of the Dixon Company at the Hippodrome, and later at the Cascade of the Biltmore Hotel.

Both hosts and guests declared the day a huge success from every standpoint.

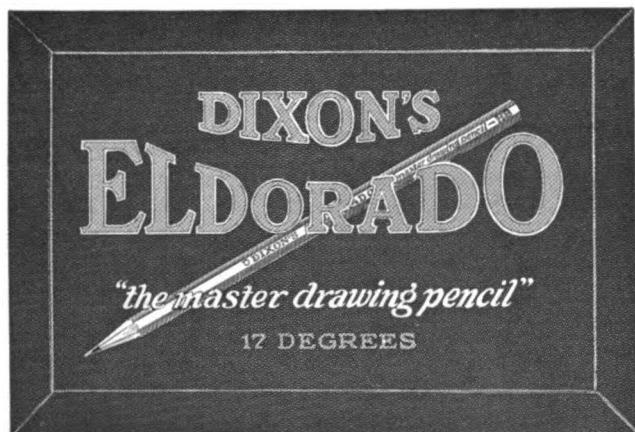


THE illustrations show the new signs that we are using in connection with our Eldorado Pencil, "*the master drawing pencil*."

Dealers carrying our pencils will display these signs, and wherever they are seen the purchaser may know that he can procure the highest-class pencil that money can buy. Dixon's Eldorado, "*the master drawing pencil*," is the perfection of the pencil-maker's art—Dixon's Eldorado is the pure "bred in the lead" American pencil.

The sign shown above is of cardboard and stands 22 inches high. The one below is of pressed steel and stands 6½ inches high. Both of these signs are of the same high quality that is making "Eldorado" famous.

Dealers wishing these signs may have them by writing to us.



MEN at some time are masters of their fates.  
The fault, dear Brutus, is not in our stars,  
But in ourselves, that we are underlings.

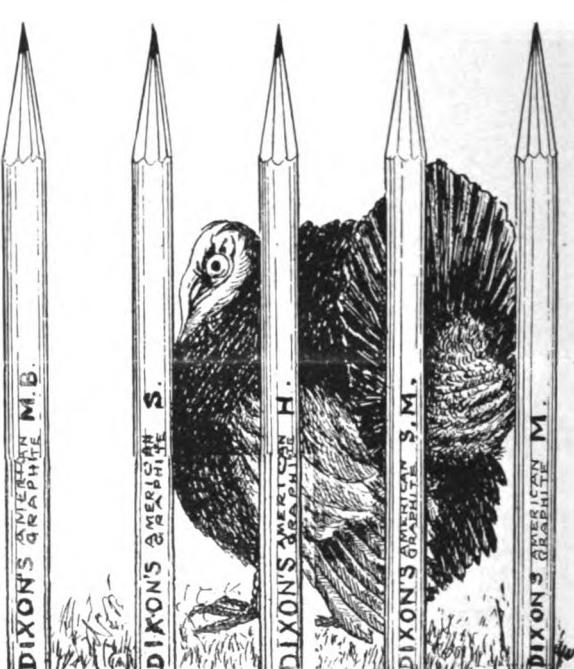
—Julius Caesar.

## How Did He Do It?

A STATIONER, who has shown considerable interest in Dixon's "Eldorado" pencils, writes us that he sold to an architect half the number of pencils he had and half a pencil more; then an engineer came in and bought half of what remained and half a pencil more, and then he sold half the remainder and half a pencil more to the chief engineer of the city, and finding that he had only three dozen left, sent us an order for five gross.

We promptly filled the order, but we are wearing out our "Eldorado" trying to find out how many pencils that stationer had in the first place and how he managed to sell half pencils, if he did sell any.

Perhaps some of the bright readers of GRAPHITE will tell us. He or she who does will receive a sample "Eldorado" of whatever degree of hardness desired. The "Eldorado" is made in 17 degrees of hardness.



## A Thanksgiving Thought

### Dixon's Crayons and the "Movies"

ALMOST unconsciously, we have become an important factor to the artists who, through the operators of moving picture houses, get so many of our dimes and nickels.

There has been a steadily growing call for Dixon's Best Black Crayons No. 905, hexagon, and No. 384, round; and the use to which they are being put is summed up in a letter in the mail this morning, reading:

"Perhaps it will interest you to know that these crayons are gradually becoming a known and much used article in theatrical 'make-ups,' being especially adaptable for motion picture 'make-ups,' giving the soft shadow effects without danger of melting and shining in the sun, as does so often the grease paint."

## Liquid Air

**I**N his book "The Triumphs and Wonders of Modern Chemistry," Mr. Geoffrey Martin gives an instructive description of liquid air. "Our grandfathers," he says, "would have been much astonished if they had been told in early youth that they would live to see the invisible air in which they lived reduced to clear sparkling liquid which boils on ice, freezes pure alcohol, and burns steel like tissue-paper."

The intense cold of this strange fluid may be illustrated by a number of remarkable experiments. Ice, cold as it seems to us, is actually 180° C. or 356° F. above the temperature of liquid air. It is consequently as hot in respect to ice as fat frying in a sauceman is in respect to our bodies, or as molten lead is hot in respect to boiling water. If, therefore, liquid air be poured upon ice it will fly off hissing like water from red-hot iron. If some liquid air be placed in a metal tea-kettle and then set upon a block of ice, the air at once begins to boil violently, and a white vapor as of steam rushes from the spout and lid. If the kettle be placed over a fire of burning coals the heat of the fire causes the liquid to evaporate more rapidly and a stream of vapor shoots out of the spout to a great height. It looks like steam from a kettle of boiling water. If water be placed in the kettle as soon as the air has boiled away, it may be taken out as ice, while at the same time the bottom of the kettle will be found coated with solid carbonic acid and ice, frozen from the fire. And all this happens with the fire glowing only an inch or so below. It is very surprising, too, to see one's breath, blown into an open can of liquid air, sent back instantly with its moisture congealed into a miniature snowstorm. Even a jet of scalding steam is instantly frozen, for between steam and liquid air lies an abrupt temperature drop of nearly 300° C. or 572° F.

Such experiments as these bring forcibly before the mind the abyss of cold which reigns in space about us. By contemplating the intense coldness of liquid air—*itself a hot body in comparison to the cold of space*—we are enabled to realize clearly how exceedingly hot the world's surface would appear to a being dwelling in the cold and darkness of the waste regions of the universe.

(The above is taken from the interesting article entitled "Liquid Air and its Properties" in *Science Conspicuous* published by The Massachusetts Institute of Technology.)

## Health

**A**LARGE insurance company claims that out of one hundred average healthy men of twenty-five, at sixty-five

- Fifty-four will be dependent upon relatives, friends or charity;
- Thirty-six will be dead;
- Five will still be earning their daily bread;
- Four will be wealthy;
- One will be rich.

## The Farmer and the Stevens Bill

**O**NE of the arguments used in the U. S. Senate to prevent the confirmation of the people's lawyer, Louis D. Brandeis, to the U. S. Supreme Court, was that he was in favor of the Stevens bill. This bill, as its title specifies, is "To Protect the Public against Dishonest Advertising and False Pretenses in Merchandising." The fact that Mr. Brandeis was in favor of this bill was *prima facie* evidence to progressives generally that this must be a good bill.

The above is from the *Farmers' Open Forum*. Other farm papers have taken up the consideration of the Stevens Bill and have reached the same conclusion, that it is a good bill and should pass.

Students of trade conditions say that the average small merchant does business at a cost of 16 per cent., while it costs the big city concerns about 30 per cent. Whether these figures are accurate or not, it must be evident to any experienced buyer that the advertising of a few standard articles at or below cost is a mistake.

Some merchants charge the difference between the cut price and the advertised price to advertising.

Much has been said, pro and con, of the Stevens Bill, but from all evidence it would seem that the Stevens Bill should pass.

## Pencils

**A**PENCIL is an ever-absent help in time of trouble. A man will carry a pencil for months with religious zeal, and upon the day he forgets it he will need it more than he ever needed it before in his life.

When you are willing to sharpen a pencil for any woman, it is either because you are in love with her, or too scared to rebel, or because you think there is a chance of her sharpening it herself.

Pencils are soft, hard and medium. When a pencil is too soft it breaks. When it is too hard you can't write with it. When it is medium the man has made a mistake and given you one too soft or hard.

To keep your pencil with you so you will always be sure to have it, get an iron band riveted around your neck or waist and chain the pencil to it.—*Life*.

WHEN your pencil is a Dixon "Eldorado" it is liable to be absent when you want it. The wood is so soft and straight grained that sharpening is a pleasure—not a task. Even your wife or sweetheart can sharpen it and she will probably swipe it.



WORK develops all the good there is in a man; idleness all the evil. Work sharpens all his faculties and makes him thrifty; idleness makes him lazy and a spendthrift. Work surrounds a man with those whose habits are industrious and honest; in such society a strong man is made stronger. Idleness, on the other hand, is apt to throw a man into the company of men whose object in life is usually the pursuit of unwholesome and demoralizing diversions.—*Darius Ogden Mills*.

### Mexico in a Nutshell

**M**EXICO has an area of 767,005 square miles, which is about three times the size of Texas, and four and one-half times the size of the six New England States, New York, New Jersey and Pennsylvania combined. Mining is its leading industry. Mineral wealth is vast and varied. In addition to gold and silver are deposits of iron, copper, zinc, tin, platinum, lead, mercury, manganese and any number of others. While silver mines are numerous and yield enormous returns, there is little doubt coal deposits will become of even greater value in future development. The oil fields, especially those near Tampico, and in southern Vera Cruz, are an important possession.

Agricultural resources of Mexico comprise some of the cereals and other food products of the temperate zone, and most leading products of the tropics. Manufacturing industry has reached the stage of meeting a great part of home demand for manufactured goods, where raw material may be produced in the country, cotton manufacture being the most important textile industry. Tobacco is equally so. Chief exports of the country in order of their value are gold, silver, oil, copper, coffee, henequin or sisal, thistle and other fibers, cabinet woods, chicle, rubber and other forest products; hides and skins, chick-peas, tobacco and sugar. Imports consist largely of railway material, industrial machinery, textiles, hardware, furniture, building material, mining supplies, drugs and chemicals, wines and spirits, wheat, Indian corn, paper and military supplies and equipment.

The population of Mexico, which numbered about 15,000,000 in 1910, may be classed at white 20 per cent., Indians 38 per cent., mixed bloods 42 per cent.

—Exchange.

### The First Fire

**H**OW were the first grass and forest fires produced; by a flash of lightning or a lava flow? Perhaps! but this cannot have been a common origin, for the lightning is usually followed by heavy rain. Early man would flee from volcanic eruptions and run to some secluded spot during a thunderstorm. Neither occasion would be suitable for first experiments in the use and control of fire. Theobald states that forests in southern India are often set on fire through friction produced by one bamboo branch rubbing against another. It is likewise known that the Negritoos of Zambales still make fire by rubbing one bamboo across a nick in another. This was probably the first method employed by early man in the production of fire. The discovery of how to make fire came early, and like the advent of the tool-using habit in general, had a profound influence on the subsequent fortunes of mankind. How long ago these momentous steps were taken is not definitely known.—*Science*.

### Spreading the Truth

**A** NATION-WIDE movement is being inaugurated by the National Association of Manufacturers of the United States of America with the intention of enlisting the coöperation of all Americans, regardless of

their occupation, age or sex, and absolutely without concern as to their political affiliation.

This movement is with the earnest desire to bring to their attention the necessity for immediate and active coöperation for the conservation of American industry, and for industrial preparedness.

It is the belief of those who have given the matter a most careful study that the public is misinformed, or thoughtless, as to the benefits which flow to every element of society, to every individual, through the activities of honest, unhampered, constructive industrial concerns.

This misinformation and thoughtlessness has led the public into acts of reprisal that are inimical to their own interests as well as to the interests of the institutions they would tear down.

It is the belief of the Association that the cure for this lamentable state of affairs is the spreading of the truth and the awakening of public thought and the public's sense of mutual interest and responsibility.

The National Association of Manufacturers have a general office at 30 Church Street and request the earnest, patriotic and coöperative help of all who are interested.

### Where Does the West Begin?

**O**UT where the hand clasp's a little stronger,  
Out where the smile dwells a little longer—  
That's where the West begins.

Out where the sun's a little brighter,  
Where the snow that falls is a trifle whiter,  
Where the bonds of home are a wee bit tighter—

That's where the West begins.

Out where the skies are a trifle bluer,  
Out where friendship's a trifle truer,  
Out where everything is newer—

That's where the West begins.

Out where a fresher breeze is blowing,  
Where there's laughter in every streamlet flowing,  
Where there's more of reaping and less of sowing—

That's where the West begins.

Out where the West is in the making,  
Where fewer hearts with despair are aching,  
Where there's more of giving and less of taking—

That's where the West begins.

Where there's more of singing and less of sighing,  
Where there's more of giving and less of buying,  
And a man makes friends without half trying—

That's where the West begins.

—*Omaha Print*,  
*published by the Omaha Printing Co.*

### A Mistake

**O**N page 4093 of the October GRAPHITE there appeared an article under the caption of "A Crucible Complaint and the Remedy."

Through a mistake somewhere the percentage of sulphur used for the third remedy should have been .9% instead of 90%. In other words, the third remedy should have read: Use a 48 hour coke, running not over 10% ash and .9% sulphur.



**Largest Sprinkler Tank in America, Dan River Cotton Mills, Danville, Va.**

**I**T is of course painted with the best known, LONGEST SERVICE and most economical protective paint in America, DIXON'S SILICA-GRAFPHITE PAINT.

This is the sprinkler tank of the Dan River Cotton Mills of Danville, Va. The tank has the enormous capacity of 400,000 gallons. The tank is 40 feet in diameter and is placed at an elevation of 121½ feet. It was erected by the noted firm, R. D. Cole Manufacturing Company, Newnan, Ga.

When Dixon's Silica-Graphite Paint is chosen by experts of this class, why is not every discriminating customer a user of Dixon's Paint? It lasts longer; it

looks better; it saves in labor and material. Therefore specify and insist on the use of Dixon's Paint.

Cotton is king in our great South-land, and Dixon's Silica-Graphite Paint is king among protective paints for metal. Remember this.



**Gulch Bridge, Hilo Railroad, Hawaiian Islands**

**H**AWAII is the largest island of the strategic Hawaiian group, all under the flag of Uncle Sam. It is about the same area as the State of Connecticut.

On this famous sugar-producing island, the Hilo Railroad runs westward from the port of Hilo, over some remarkable bridges.

We illustrate above the large bridge over the Maulua Gulch, the bridge being 1006 feet long, with a 6 degree curve; height above foundation, 153 feet.

The climatic conditions are tropical and sub-tropical; that is, great heat, dampness and much rain.

Dixon's Silica-Graphite Paint was chosen for the protection of this bridge, as well as other bridges owned by this System, because of its unapproachable record as the best protector of metal under conditions of this kind or of any arduous kind in any climate, tropical or frigid, damp or dry.

Dixon's Paint is the most widely used protective paint in tropical and sub-tropical countries. We do not think we could offer a better recommendation for this "LONGEST SERVICE" paint.

#### **Inspector Praises Clean Boilers**

**W**E wish to advise that we have been using Dixon's Boiler Graphite No. 2 for the past eighteen months. We find it to be the best cleaner for boilers that we ever tested. Mr. Repps, who inspects our boilers for the Hartford people, tells us that we have the cleanest boilers that he has the pleasure of inspecting. We would under no consideration use any other cleaner.—*J. O. Frost's Sons, Towanda, Pa.*

◆ ◆ ◆

**T**HE man who is most to be wanted for positions of trust is the one who does not work for mere selfish gain, but for the love of the task.

If he does his work for love of it, and not out of consideration alone for the result, he will serve his own interests best, for he will do his work well and thereby make himself indispensable to his employer.—*William Howard Taft.*

## Keeping the Springs Oiled

### Question

**D**O you think I have to open up the leaves of the springs in a car, or is it better not to touch them and just oil the joints through the grease cups which are attached to them? What difference does it make if I keep the springs clean and would oil them?—T. I. C.

### Answer

IT is very important to keep the springs, as every part, of the car clean all of the time. At least twice a year you should open each leaf of the spring and either with an oil gun or a thin metal strip put in oiled graphite. First of all this will reduce the squeaking noise of the car, and second, it will better the riding quality. The springs will work easier and you get more pleasure out of the car. There are many ingenious methods for the purpose of oiling springs; one of them is, after you have opened the bolt put a clamp between two leaves. If

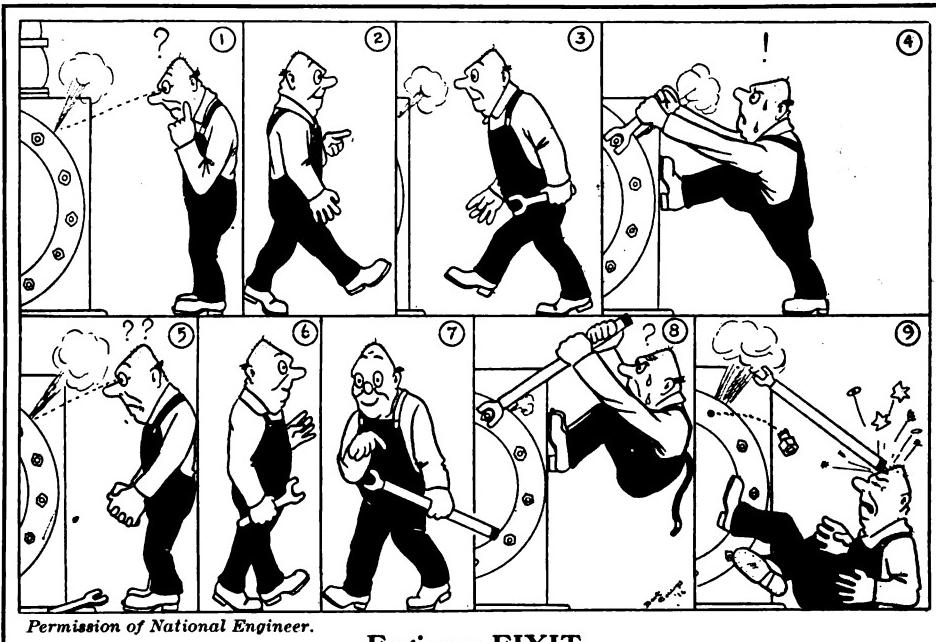
you possibly can, always scrape with a thin knife made out of an old hacksaw before putting in new oiled graphite. Some people use mica grease, but this is not as good as graphite for this purpose.—*American Garage & Auto Dealer.*

## France Making Crucibles Equal to German Make

**S**ÈVRES, which, with Limoges, shares the world honors for ceramics, is to-day under the direction of the French Minister of War, and its output is direct to the Allied armies.

The vast plant of Sèvres has not been transformed into a gun-making or shell-filling arsenal, but the need its output fills is every bit as important as Creusot's, the Krupps of France. For at Sèvres are made the crucibles, the condensers, the retorts. Before the war the Central Empires had a corner on this market. Much of the pottery and glassware used in laboratories and chemical factories was made in Bohemia and nearly all of it was marketed by Germany. Since the war the Allies have had to supply their own needs. So it was to the Sèvres plant that the French Government turned.

It was long and slow work for the French ceramic specialists. They had never given attention to that



MORAL—Use Dixon's Graphite Pipe Joint Compound and save time and temper.

branch of their art. Innumerable mixtures of various kinds of clay were tried to get an alloy that would hold. Finally a mixture was discovered which if not the counterpart of the Bohemian is at least as good, and it has been in use for many months in France. Now the Sèvres plant is shipping goods to England and to Russia, so that those countries are no longer forced to obtain their supplies by devious means at extortionate prices from Holland and the Scandinavian countries.—*The World.*

## The Secret of Long Life

**M**ARTIN LUTHER is quoted as saying, in explaining why he worked so hard until the end of his life, "When I rest I rust." Chauncey M. Depew tells us that the only way to live long and be happy is "to keep a-goin'." Mr. Depew further said in an interview to some reporters:

"The mind and heart are machines. They must be kept busy to prevent their rusting. I have known many men who retired from work, as they said, to enjoy life. As a rule, after the first year they are bored blue. Then they begin

to think more of their health than anything else. They imagine they have all the diseases described in patent medicine advertisements. Then they take the patent medicines. And then they die. The disuse of anything, from machines to mind and muscles, results in atrophy."

The *Havana Post* in quoting the above adds:

"The great Gladstone reached the zenith of his political power after he was four score years. Commodore Vanderbilt acquired the greater part of his immense fortune after he had reached three score and ten. Joseph Choate at eighty-four is one of the most popular speakers in the United States."

THE Gods hate busy bodies, and those who do too much.—*Euripides.*

**"Selling Organization"**

**THE ENGINEERING MAGAZINE** has started a series of articles on "Scientific Administration."

The *Engineering Magazine* does not apparently believe in the scientific management advocated as it was a few years ago, when according to reports sales went beyond all calculations, costs were brought to absolute zero, the concerns were out of orders, and the works shut down.

Nevertheless, the word "scientific" may be used in connection with present selling methods.

Managers should have a clear and well-defined idea of possible sales in a given territory, should know whether goods are suitable for that territory, should know the probable prospects in that territory and the proper method of placing the product before the customers; goods should be properly advertised, properly packed and salesmen properly coached.

The matter of salaries and the method of paying salaries are having, at the present time, much consideration. For the most part salesmen and sales-managers are paid straight salaries or salaries coupled with a commission on the sales. Straight salaries are like day wages, where the workers are paid for time served regardless of workmanship—the only incentive being the fear of discharge.

Straight salaries coupled with a commission on the sales are considered by the *Engineering Magazine* as worse than the old-fashioned piece-rate system.

The commission-on-sales makes the salesmen simply bring in orders, even though at different or cut prices, and salesmen try to make the firm believe that such action is necessary in their particular territory.

Salesmen should be paid not to cut prices, but directly in proportion to the effect their acts have on the net profits of the firm, the quantity of goods sold, the prices obtained for goods, and the sales expenses incurred.

◆ ◆ ◆

It is a poor heart and a poorer age that cannot accept the conditions of life with some heroic readiness.—*Robert Louis Stevenson.*

THE following extracts from a letter received from Mr. E. H. Sweeley of Richmond Hill, N. Y., give a good idea of the results that may be expected from flake graphite lubrication, when the graphite is applied through an efficient feeding device:

" . . . as it was very unusual in that No. 1 Flake alone without any oil at all was wholly depended upon for cylinder lubrication.

"Early this spring I equipped with my Stationary Lubricator a 750 H. P. upright marine engine on a tugboat working around New York harbor. This tug was equipped at that time with a flash type superheater boiler. Steam temperature at times went over 900 degrees Fahrenheit. After over four months' service, examination of cylinders of this engine showed splendid lubrication conditions."

"On one of the Eastern railroads, a certain heavy consolidation locomotive, newly equipped with a superheater, operated satisfactorily with the original slide valve cylinders, using Sweeley Lubricators and Dixon's No. 1 Flake Graphite. The extra expense of installing the customary piston-valve cylinders was thus avoided."

The Sweeley Graphite Lubricator, mentioned above, was described in the December, 1915, issue of **GRAPHITE**.

**Graphite in Motor Oil**

**N**UMEROUS experiments extending over a long period of time, conducted by several of the oil companies, establish the fact that graphite in motor oil is of distinct advantage to the motor, provided that it be graphite of the right sort, used according to directions.—*American Garage & Auto Dealer.*

◆ ◆ ◆

THE wisest men that e'er you ken  
Have never deemed it treason  
To rest a bit—and jest a bit,  
And balance up their reason;  
To laugh a bit—and chaff a bit,  
And joke a bit, in season.

—M. G. Kains.

◆ ◆ ◆

THERE are no benches on the road to success.—*Anon.*

**GOLDEN BOUQUETS**

OR WHY

**DIXON'S ELDORADO**

"The Master Drawing Pencil"

SHOULD BE USED

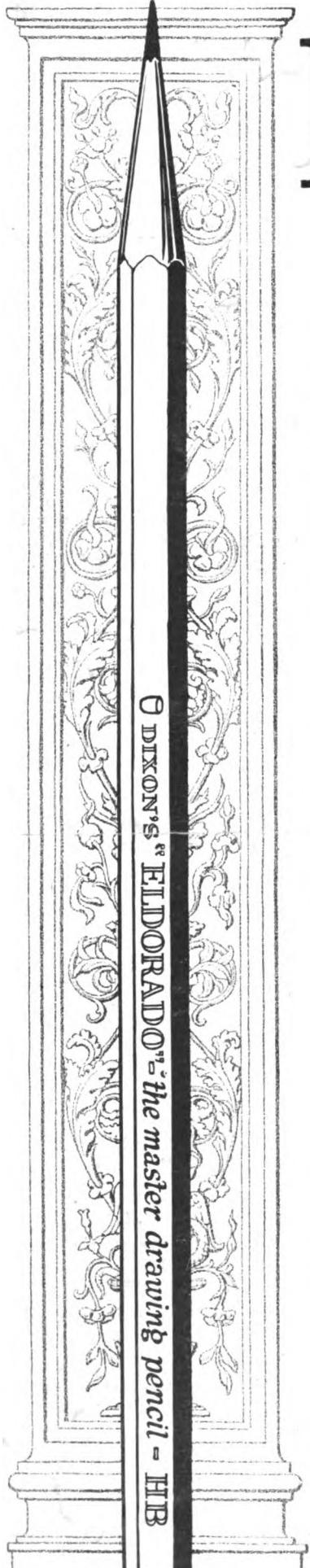
"THE samples of your new drawing pencil came to hand promptly and proved to be all that you claim for them. The fact is: I do not believe you claim enough for them. After examining them and then trying them out in actual drawing work I can truthfully say that they are without exception the best drawing pencils that I have ever used. Personally I am very particular about my pencils and am rather hard to please, but I can find no fault with the 'Eldorado.'

"I WISH to say that your 'Eldorado' is the first 'American-made' pencil I have encountered to compete with the draughtsman's old choice of — and to perhaps surpass that brand in smoothness and certainly in what I would call toughness or longevity of the wearing point on the lead. I would call your HB and F the perfect pencil for tracing linen and tracing paper respectively."

"THE 'Eldorado' is certainly a fine pencil; none better."

"WE received the samples of 'Eldorado' and are frank to say that they seem to be more than you represented, in our opinion, and we shall certainly see that there is a supply on hand at all times for our office use. The writer has used your 11½ and 117 No. 3 for the last 30 years and could n't 'keep house' without them."

*The above are extracts from some of the letters that have been received by the Pencil Department. Every one of them is genuine.*



# DIXON'S ELDORADO

*"the master drawing pencil"*

Dixon's Eldorado in the softer leads is responsive and even in tone. It is free from grit and does not crumble. The shading is even and uniform.

Dixon's Eldorado in the harder grades holds a fine point. Does not tear the paper or necessitate frequent sharpening. Fine line drawings may be cleaned without destroying the lines. The figures do not blur.

Dixon's Eldorado in the intermediate grades is made with a relative balance of the above qualities, and is the ideal pencil for general work.

Dixon's Eldorado in the 17 grades is uniformly and regularly graded throughout the entire length of the lead.

These are the specifications that make Dixon's Eldorado "*the master drawing pencil.*" Full-size samples sent on request on your letter head. Please specify degrees chiefly used.

**JOSEPH DIXON CRUCIBLE CO.**

Dept. 190-J, Jersey City, N. J.

**DIXON'S BEST WHITE № 352**  
*writes white on blueprints*

O DIXON'S "ELDORADO" "the master drawing pencil - HB

THE DEVINNE PRESS  
NEW YORK

# Graphite

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DECEMBER, 1916

No. 12



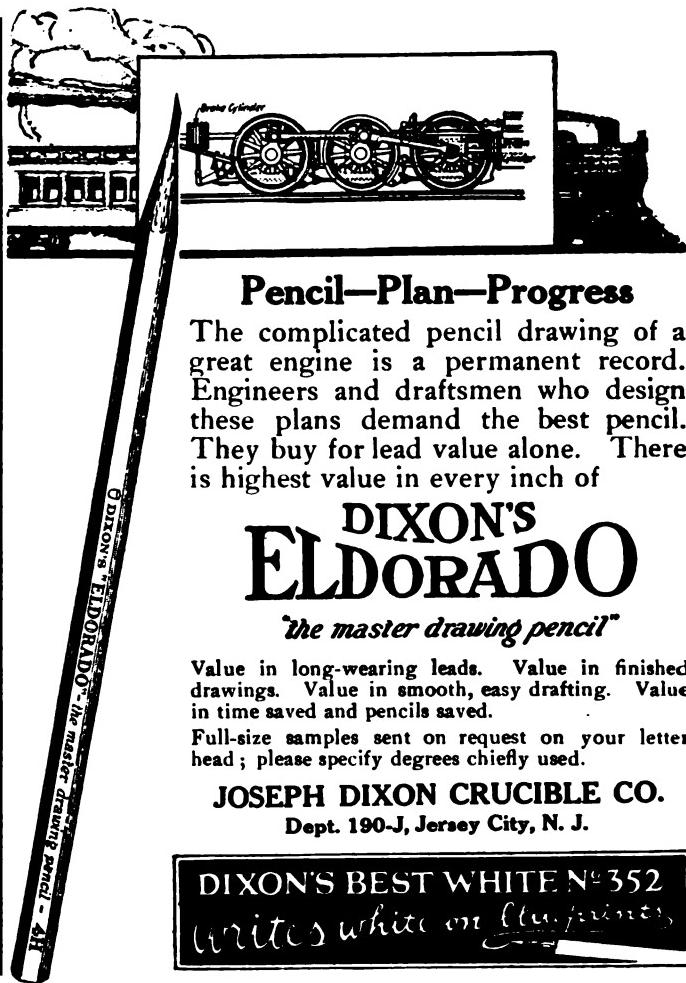
Casting Art Bronze  
with  
Dixon's Crucibles

Photo by Underwood & Underwood

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## "Graphite"

This issue of "Graphite" celebrates its eighteenth birthday—the beginning of the nineteenth year of "Graphite's" existence. The initial number of "Graphite" came out in December, 1898, and there were many who predicted that it would not live a year. To-day "Graphite" is one of the best known house organs published in this country. It goes to somewhat over 12,000 readers all over the world every month. There are many who believe that "Graphite" furnishes them with just the right amount of useful and interesting information—it is very much sought after by those who have read this little magazine year after year. The significant fact about "Graphite" is its size, which, when it was first published, was considered to be somewhat outlandish. To-day most of the popular magazines, trade papers and periodicals have adopted the nine by twelve size. "Graphite" may or may not have been the leader in this move. With the coming year, a great deal is planned for "Graphite" in the way of improvements. The few rough edges that at times stick out, are to be smoothed over and it is expected that its dress will be greatly improved and show taste and character. It is known that "Graphite" is not perfect yet, and much time and thought is being exercised with an idea of making it so or nearly so. Any suggestions with this view in mind will be received with great pleasure.



## Pencil—Plan—Progress

The complicated pencil drawing of a great engine is a permanent record. Engineers and draftsmen who design these plans demand the best pencil. They buy for lead value alone. There is highest value in every inch of

## DIXON'S ELDORADO

*"the master drawing pencil"*

Value in long-wearing leads. Value in finished drawings. Value in smooth, easy drafting. Value in time saved and pencils saved.

Full-size samples sent on request on your letter head; please specify degrees chiefly used.

JOSEPH DIXON CRUCIBLE CO.  
Dept. 190-J, Jersey City, N. J.

DIXON'S BEST WHITE N° 352  
*writes white on drawing*

## JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED  
1827

Jersey City, N. J., U. S. A.

INCORPORATED  
1868



Miners, Importers and  
Manufacturers of Graphite,  
Plumbago, Black Lead



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# Graphite

Vol. xviii  
No. ~ 12

December  
~ 1916 ~



## The Fallacy of Grief

MR. MAURICE MAETERLINCK tells of a mother whose son was lost in a battle. He expected to find her bowed down with grief, but he found her gay and smiling. She showed a photograph of his grave but believed that only his body was there, that he was still with her, that he had not suffered pain at time of death, that he was astonished that death had been so easy, that he talked with her and was with her, and that he was more alive than he ever was before, and that he was free and happy.

People believed her mad, but was she as mad as they thought?

Mr. Maeterlinck adds:

"At the present moment, the great questions of the world beyond the grave are pressing upon us from every side. The empire of Death was never so mighty, so terrible; it is for us to defend and enlarge the empire of Life. In the presence of this mother, which are right and which are wrong—those who are convinced that their dead are forever swept out of existence, or those who are persuaded that they do not cease to live, who believe that they see them and hear them? Do we know what it is that dies in our dead, or even if anything dies? Whatever our religious faith may be, there is, at any rate, one place where they cannot die. That place is within ourselves; and, if this unhappy mother went beyond the truth, she was yet nearer to it than those despairing ones who nourish the mournful certainty that nothing survives of those whom they loved."

"Let us learn to acquire through reason that which a wise madness bestowed on her. Let us learn from her to live with our dead and to live with them without sadness and without terror. They do not ask for tears, but for a happy and confident affection. Let us learn from her to resuscitate those whom we regret."

"Material presence is not everything in this world, and we can dispense with it without despairing. We do not mourn those who live in lands which we shall never visit, because we know that it depends on us whether we go to find them. Let it be the same with

our dead. Instead of believing that they have disappeared, never to return, tell yourselves that they are in a country to which you yourself will assuredly go soon—a country not so very far away.

"Try, then, to recall those whom you have lost before it is too late, before they have gone too far; and you will see that they will come much closer to your heart, that they will belong to you more truly, that they are as real as when they were in the flesh. They care for nothing now but to smile upon us, to encompass us with love, to bring us a happiness drawn without stint from a past which they live again beside us."

## The Prince of Peace

ALL the old troubrous questions of the origin and destination of the Galilee Carpenter have passed. All the medieval worriment in discriminating between human and divine has gone, all the puzzled inquiry into the miraculous. No longer is mankind stirred over the non-essential. Theories of Him fade away, dogmas on His nature lose their charm. His gentleness has conquered. His influence continues and widens. Slowly brightening, the Gleam that lighted Him spreads through the world. His spirit moves on the face of civilization and makes it kindlier every generation. The touch of His hand is on the grief-stricken. Nurse, physician, and nun are the messengers of His teaching. The vestal fires burned out, but never the fires of His spirit, which answer each other from mountain-top to mountain-top across the continents. And deep in the heart of the people they make family life sweeter and ease the bitterness of failure and ignorance and all life's incompleteness. That wonder-working personality was never so potent as to-day—so insistent and tenderly sure. Under a thousand forms, creeds, and names, men serve Him. And however far we go in the conquest of nature, identifying the North Pole, climbing the sky, prying open electrical forces, diminishing sin, disease, war, poverty, ignorance—always in the advance will be that gracious figure of the Sinless One, who showed Love as the rule of life. One Perfect Man—ardent and gentle—the race will never tire of Him. —Written by Arthur H. Gleason for "Collier's."

## The Supply Men's Association

H. A. Nealley, Boston Manager of the Joseph Dixon Crucible Company, Honored at the Big Convention held in New Orleans

**A**T the annual meeting of the Bridge & Building Supply Men's Association, which met at New Orleans in October in connection with the American Railway & Bridge Association, Mr. H. A. Nealley, Branch Manager at Boston of the Joseph Dixon Crucible Company, was elected President for the ensuing year.

The convention was a success in every way. At the banquet of the Supply Men's Association, there were 350 members of the Association.

Members from the North came by special train composed of nine Pullmans and two diners which stopped at Vicksburg en route. While in Vicksburg the party was given an auto trip through the Vicksburg National Military Park. During the week in New Orleans special auto trips and train trips were arranged.

Mr. Nealley, the new President of the Association, was born at Bath, Me., and was for some years member of the *Times* staff at Bath.

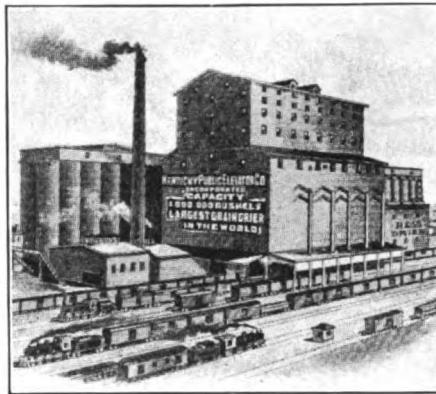
Mr. Nealley is the youngest son of the late Hon. E. S. J. Nealley, for many years collector of customs of the port of Bath. He left Bath a score of years ago to enter the employ of the Joseph Dixon Crucible Company and later became the Boston Branch Manager.

Mr. Nealley's old time paper, the Bath *Times*, ends up a very interesting article it has concerning Mr. Nealley by saying: "He is another example of the able Bath boy who makes good wherever he happens to land."

## A Good Method

**NOVICE:** What's the best way to learn golf?

**OLD TIMER:** Take a couple dozen balls, a wheelbarrow load of sod and forget that you ever went to church.—*Orange Peel*.



### Elevator, Kentucky Public Elevator Co., Louisville, Ky.

Capacity 1,000,000 Bushels

**A**LTHOUGH Dixon's Silica-Graphite Paint has many long service records, here is a banner one which we quote with pride.

We are indebted to Manager F. C. Dickson for his courtesy in enabling us to illustrate this fine elevator plant, which is notable for its success, largely owing to his ability and popularity.

### KENTUCKY PUBLIC ELEVATOR CO., Louisville, Ky.

Joseph Dixon Crucible Company, Jersey City, N. J.

Gentlemen:—

It will probably interest you to know that the black iron siding that was put on our elevator building in 1881 (35 years ago) and which was painted with Dixon's Silica-Graphite Paint, is still covered by it. We are much pleased to state that we attribute its preservation to the use of Dixon's Paint, of which we believe we were the first users in this city.

Yours very truly,  
KENTUCKY PUBLIC ELEVATOR CO.,  
(Signed) F. C. DICKSON,  
Manager.

To every owner of metal work, therefore, we confidently make our recommendation that Dixon's Silica-Graphite Paint should be insisted on, if assurance is wanted of longer and more economical service per year. It is the best known, widest

known and oldest (over 50 years) protective paint on the market and the most discriminating and economical users specify it and see that none other is used. Do not be won by specious advertising or mere talk. Let service testimonials and your own experience with this paint convince you and confirm you in its use in your plant in future. Also recommend it to your friends for you will thereby be doing them a pocket-service in economy.

## The One-Man Idea

**T**HE vice-president and general manager of a large, prosperous and growing industry has this to say concerning the one-man idea:

"I am a believer in a fact that has been demonstrated times without number, that everything in this world which is done and which is worth while, has to be done by one man. The one man may succeed in getting around him a 100 per cent. organization, but if he cannot dominate that organization and cannot create the atmosphere in which it moves, lives, and has its being, there is generally trouble ahead.

"One of the sad facts to me of our present industrial condition is the one that our workmen are becoming more and more like machines instead of individuals. The old time love of employment and employer is rapidly going, and it is all due to the fact that instead of industrial plants that are really the children of some particular man's brains and efforts, we have to-day organizations that are mere manufacturing and money-making institutions.

"When we were boys the old man said 'good morning' and 'good evening,' and we had a chance to see him around all of the time. And I remember that one of my particular managers had a wooden leg, and I was more or less fond of seeing him limp through the factory. Many an hour I spent imitating that particular limp, until I really believe I could do it to-day to perfection.

"A human sales force is a wonderful asset; and a human sales force is not possible without a human sales manager at the head."

## Invisible Losses

**F**OR a number of reasons it is unfortunate that the British thermal unit is invisible and intangible. If it were as plain to the naked eye as a Zeppelin the chances are that it would be treated with considerably more care and respect in the average plant. As it is, however, heat units are dissipated in scores of ways, oftentimes without any attempt on the part of the engineer to prevent the loss.

So long as heat is kept in its proper channels in the steam plant, there is a chance to utilize it in the production of energy in a usable form; but as soon as it escapes from the lawful guardianship of pipe or flue, it is absolutely gone, and is just as irrevocably beyond hope of recovery as the famed Humpty Dumpty of childhood days.

No engineer in the right use of his mind would think of carting out an occasional barrow of perfectly good coal and dumping it on the ash pile. He knows that coal costs money, and a deliberate waste of that kind would be so plain that he could not possibly overlook it. But after the coal has been fed to the furnace and converted into hot gases, or after the hot gases have given up their heat to the water and have produced steam, the heat equivalent of that occasional barrow of coal is apt to go to waste without any protest on the part of the engineer. The loss may occur through radiation from the steam pipes and boiler shell, or at the top of the chimney through excessively high temperature of the flue gases; but in any case, the escape of the heat is not as plain as a pike-staff, and therefore goes unnoticed.

A leaky valve or joint in a steam main will call attention to itself unmistakably by the streamer of vapor that rises from it. A leak in a feed pipe or at a blow-off valve will manifest itself very quickly, even to the unobservant. Badly packed piston rods and pump plungers will soon betray their condition. In such cases as these, the engineer who values his reputation gets busy with wrench and gasket and packing and puts things to rights. But let the excess of air admitted to the furnace run up to three or four times what it should be, let the unburned fuel in the ash run high, let the air seep through a thousand chinks and cracks in the boiler setting, let the coverings of steam pipes and heaters deteriorate until the radiation loss is doubled or trebled, and many an engineer goes serenely on, blissfully unconscious of the state of things.

Then there is that other great waster of energy, friction. Wherever friction occurs, there heat is dissipated; but so silently and unobtrusively does this loss occur that many an engineer is unaware of its magnitude until it causes overheating of a bearing, seizing of a journal or a shaft, melting of a babbitt box, or some equally obvious result. Then, as an accident of that sort touches his pride on a tender spot, he gets busy to remedy the fault.

If, in some miraculous manner, the heat units that go to waste in the average steam and power plant were transformed into a visible form, as plain and as tell-

tale as jam stains on a small boy's blouse, what a decline there would be among the reputations of a lot of engineers who think they are operating their plants to the best advantage; and what a scurrying around there would be to discover ways and means of getting rid of the evidences of poor management.—*National Engineer*.

To which we say, Amen!

Engineers who use flake lubricating graphite properly do not need to worry about the sly depreciating effect of friction. Friction hasn't a chance. There are still a few engineers who depend upon flake graphite to help them out of trouble only in an emergency. They do not seem to realize that by using a little every day, hot boxes and kindred lubricating troubles would not occur. There are plenty of good graphite feeders on the market and it would pay any engineer to ask us about them.

## Dixon's Waterproof Graphite Grease



**O**N account of its great adhesiveness Dixon's Waterproof Graphite Grease will not be thrown from gears, chains and wire ropes under ordinary conditions. It is not wasted by dripping and cannot be washed off.

These properties highly commend its use on wire ropes and chains, metal and wooden gears, cranes, derricks, dredges, steam shovels, turntables, bridges, pile drivers, winches, hoisting engines, quarrying and mining machinery, coal handling machinery, and all other heavy machines exposed to water or the weather. It not only lubricates, but is a sure rust preventive as well.

◆ ◆ ◆

GRAPHITE extends its heartiest good wishes to all its readers for a very Merry Christmas and a Bright, Happy New Year.

Seventeen  
Degrees

5

# Graphite

[DECEMBER, 1916]

## SPECIFICATIONS

Your pencil specifications are the foundations of a finished work. A good pencil, one that draws smoothly, that has no grit, and that is long-wearing, is the greatest factor in a neat-looking plan.

### DIXON'S ELDORADO

*"the master drawing pencil"*

in 17 degrees, is made for the most exacting pencil work. For the fine hairlines, for the heavy shading, for every class of drawing that requires a good pencil, uniform in grading and guaranteed in quality.

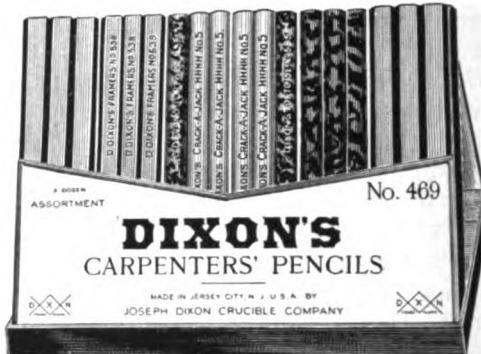
Full-size samples sent on request on your letter head; please specify degrees chiefly used.

**Joseph Dixon Crucible Co.**  
Dept. 190-J. Jersey City, N.J.

DIXON'S BEST WHITE N° 352  
*writes white on blueprints*



DIXON'S Carpenters' Assortment No. 469



### Dixon's Carpenters' Assortment No. 469

THE Dixon Company is now offering an assortment box which is a departure from the conventional style.

Its advantages are in the construction of the box, which, while being strong, is simple, and which, though packed flat, is readily adjusted to form an easel support.

It carries three dozen instead of six dozen pencils, which is a desirable feature. Also there is in the assortment a variety of finishes, and one half dozen of a hard grade No. 5 lead, for which there is a specific demand.

Hardware dealers will welcome this assortment, which has been most carefully planned to suit requirements.

### Just Two-ninety-five

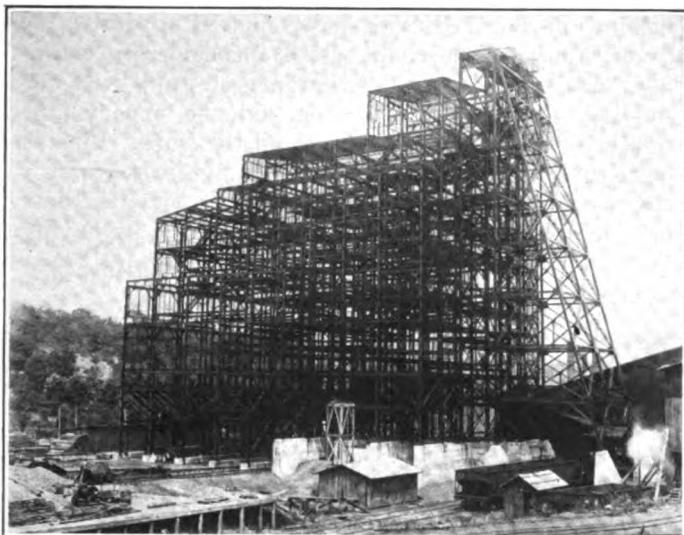
REFERRING to the pencil problem on page 4106 of the November GRAPHITE we are greatly indebted to our old time and valued friend Mr. George E. B. Putnam of the Boot and Shoe Recorder Publishing Company of Boston, Mass., for the following:

"The stationer, as I'm alive,  
Had pencils just two-ninety-five;  
The architect, as sure as fate,  
Bought of him just one-forty-eight;  
The engineer got seventy-four,  
And thus the storeman's stock was lower;  
The next sale counted thirty-seven,  
And so to buy more he was driven.

"If you send me an Eldorado,  
I say it, sir, without bravado,  
My autograph looks best, by far,  
When writ with pencil black as tar."

\* \* \*

POSTMASTER GENERAL BURLESON told the National Association of Postmasters' convention that if revenues from second class mail were increased, "extravagance for useless political service" in the rural mail system were curtailed, and payments to railroads for mail transportation under the news space basis were reduced, he could recommend to Congress next year that letter postage be reduced to one cent.



### Coal Breaker, Lehigh & Wilkes-Barre Coal Company, Wanamie, Pa.

**H**OW unfamiliar is the familiar! Every one thinks he knows all about coal, because he has seen it all his life. But what does he know about a coal breaker, absolutely necessary to prepare the coal for use?

Through the courtesy of the well known mechanical engineer, Mr. J. H. Doughty, head of the engineering department of the Lehigh & Wilkes-Barre Coal Company, we are able to illustrate this fully-equipped modern breaker, the best of its kind.

Power is spoken and suggested in every detail.

The breaker is used to break, wash, sort and prepare the anthracite (hard) coal taken from the Wanamie, Pa., mine of the company.

The three-ton cars are hoisted from the mine to the top of the breaker. The breaker has a capacity of 600 tons of prepared coal per hour. Its height is 144 feet.

The frame is of structural steel; total weight of steel 1100 tons. This steel was painted with a shop coat of Red Lead and two field coats of Dixon's Silica-Graphite Paint. There are 15,800 feet of wired glass in the windows. The breaker prepares EIGHT SIZES of coal, which is crushed between eight pairs of rollers, nineteen sets of shaking screens, and thirty-eight spiral slate separators.

The steel frame was fabricated by the Fort Pitt Bridge Works, Pittsburgh; the contracting painters were David Salkind & Company of Philadelphia. The concrete work was done by the Lehigh & Wilkes-Barre Coal Company itself; and most of the breaker machinery was built by that noted coal company, and all designed by Mr. Doughty.

The use of Dixon's Silica-Graphite Paint on coal breakers such as this one is a proof of its high power and efficiency to resist abrasion, wear, dust, dampness, coal gases, and all hard conditions of endurance.

Dixon's Paint is the longest enduring paint for metal work; it has been made for over half a century in ONE QUALITY only—the BEST, which is a guarantee to

the user of highest quality; a guarantee no other company can furnish. That is why Dixon's is standard all over the world both in paint preparedness and paint performance.

### Proper Lubrication for Ford Cars

**T**HE following inquiry is taken from the query columns of the *Horseless Age*:

"I have a Ford car and would ask you to kindly inform me through your paper whether it would be of any benefit to use flake graphite in the lubricating oil and how far a Ford should go on a gallon of oil."

[Flake Graphite is a good lubricant, and its use in an automobile engine generally results in the reduction of piston friction and in economy in the use of oil.—ED.]

Dixon's Motor Graphite, a selected grade of flake formation, can be used to good advantage in a Ford motor, or, in fact, in any automobile engine. When properly used, it will reduce frictional losses in the cylinders, improve compression and, by reducing the quantity of oil required, will to a large extent prevent carbonization and smoky exhaust.

Care should be taken to observe the following precautions, otherwise trouble may develop: The graphite must be introduced directly into the cylinders either through spark plug holes, through the air intake pipe of the carburetor while the engine is running, or by means of special lubricators that are attached to the intake manifold. The latter is probably the most satisfactory method and we will be glad to give to interested readers the names and addresses of the lubricator manufacturers. Graphite should be used regularly but sparingly and under no circumstances should it be mixed with the engine or transmission oil in a Ford car.

We have a little chart which indicates the proper Dixon lubricant for each part of the Ford car. A postal addressed to Dept. H will bring this chart and full information.

### American Trade in South America

**W**E learn through Consul William Dawson, Jr., writing in *Commerce Reports*, that the international situation has undoubtedly increased the interest in South America in United States products. However, in spite of intelligent efforts of numerous commercial organizations in the United States, many individuals are still in the dark as to how the desired end is to be attained.

Granted adequate shipping and exchange facilities, the most important factor in the extension of United States export trade to South America is the willingness of the United States seller to get into some sort of personal relation with his South American customers and make indispensable concessions to their method of doing business.

If the market appears likely to be important and permanent, the manufacturer can well afford to make the trip himself.

Traveling salesmen should be sent out at regular intervals if the manufacturer finds that the probable demand will warrant such an expense.

If the probable demand does not seem to warrant such expense, the business may be placed in the hands of reliable New York commission houses or some arrangement made for an agency.

Another method that may be recommended is the sending of a salesman by a group of non-competing manufacturers.

United States exporters must realize that the European manufacturers have built up their export trade in South America through personal effort, aided by the investment of European capital in industrial enterprises.

Direct personal relations between buyer and seller will tend to obviate other obstacles often considered inherent in United States trade methods, such as unfavorable credit terms and unwillingness to conform to local requirements.

The United States manufacturer who knows the standing of the purchaser of his goods will realize the propriety of giving him credit, and not a few United States traveling men who have left New York with orders to demand cash in all cases have prevailed on their firms to grant reasonable credit facilities after they have reported satisfactorily on standing and banking arrangements.

In the same way, Consul Dawson knows of cases where the personal visit of a factory representative has sufficed to insure the South American importer a regular supply of articles specially designed to meet his needs. It is furthermore obvious that the establishment of direct personal relations will do away with hundreds of misunderstandings, inevitable under other circumstances and harmful in the highest degree to United States trade in general, which can frequently be ascribed to business on a correspondence basis. Orders are undoubtedly secured by correspondence, but such business generally lacks a firm basis and is apt to be taken by the first enterprising competitor who gets into personal touch with the customer.

We have already mentioned in the columns of GRAPHITE correspondence from our own representative at Buenos Aires who told of the tons of printed matter in the way of catalogs, circulars, etc., that had come into Argentina without proper postage, and largely written in English.

Consul Dawson corroborates our own representative and mentions the unprecedented increment to the steady flow of catalogs, circulars and letters—often bearing the well-known penalty postage stamp—that came from the United States firms to his Consulate at Rosario. Mr. Dawson adds that such literature receives little attention. When business is good, importers have no time to wade through catalogs and cannot afford to lose the six or eight months often required to make satisfactory arrangements by letter. Such trade methods are viewed with little favor.

Frequently the United States manufacturer seeking business in South America makes himself appear to the South American merchant selfish, inconsiderate, exacting. He seems to demand the largest profit with the smallest risk, and, giving no aid, he expects the South American importer to do all the work. This is quite different from the European competitor, and it is not surprising that the United States manufacturer finds his attempts to do business terminated by having the Spanish proverb quoted him: "He who wants to eat fish must be prepared to get wet."

## Graphite

ONE of the men in the testing department of a gas tractor used graphite considerably. He thought it helped in working out new engines, preventing the sticking of pistons. I am sure it did in his case, for he had mighty little trouble.

One of the others thought it would be a good stunt for him to try the use of graphite. He hoped to save himself some trouble. On the foreman's order he obtained a quantity of graphite from the storeroom. He used it by handfuls on his engine, feeding it in at the air admission pipe. His engine had not worked long until it began to misfire. Then it stopped. The spark plugs were shorted with graphite. I don't know how many times he had to shut down and clean plugs before the graphite finally worked out of the cylinders.

The man who used it with success admitted small amounts at rather long intervals. Graphite seems to be all right if used sparingly and in the flake form.  
—*Gas Power.*

As the poet wrote:

"When it 's good, it is very, very good;  
But when it 's bad, it is horrid."

Strychnin, when administered in proper doses, is an excellent stimulant in cases of nervous disorders, but it is sure death if an overdose is taken. Yet the medical profession would not think of abandoning the use of strychnin.

Graphite, too, can easily be abused. It is often argued that graphite lubrication is "no good" because some one has used foundry facings in an engine cylinder or has used several times too much graphite in his gear case, and has not been pleased with the result. However, such occurrences are becoming less frequent, thank goodness. Each year great numbers of converts are won over to Dixon's flake graphite lubrication, because experience has proved it to be the best when used judiciously.

## More Apt To Be

**M**R. FLUBDUB: "That girl thinks no man is good enough for her."

**Mrs. FLUBDUB:** "She may be right, at that."

**Mr. FLUBDUB:** "Yes, but she is more apt to be left."

—*Detroit Free Press.*

# The Weather

## Various Misconceptions and Superstitions

(Extract from *The Popular Science Monthly*)

IT is only during the past century that any real progress has

been made in a scientific knowledge of the weather. Meteorology and climatology have progressed slowly, and for this reason various misconceptions and superstitions have persisted even to the present time.

The supposed influence of the moon, the planets or the stars is probably the most wide-spread of all popular misconceptions about the weather. The text-books in geography still used in many of the common schools frequently combine a brief discussion of astronomy and meteorology in the introductory chapter, thus laying the foundation for considerable confusion in the minds of the children. Moreover, the ancient science of astrology still has a few disciples among the uninformed, as far as the weather is concerned.

It should be remembered that heat is the fundamental force determining weather—the form of energy outweighing all others combined. Weather changes result from the effects of forces at work within the atmosphere itself, primarily as a product of energy coming through space from the sun.

The moon, about which most misconceptions of this character center, is without doubt the direct cause of ocean and atmospheric tides, and there are places along certain coasts where ocean tides produce periodic tidal breezes. There is a proverb which states that the moon tends to drive away the clouds, but this is not true. The fact is that a clearing of the sky at night is not ordinarily observed unless the moon is above the horizon; furthermore, after sunset there is a cessation of the ascending currents which form clouds, and the clouds already formed soon disappear.

The deep-seated notion, held by many individuals, that the climate is changing is often referred to in expressions like "old-fashioned winter," "the storms we used to have," and "the deep snows when I was a boy," etc. When one plots the seasonal or the annual temperatures or snowfalls, or any other elements of climate, using reliable records as far back as they are available, it is apparent that the curves show no appreciable change of climate within the life of any man now living. Present winters do not seem to be as severe as "old-fashioned winters" because of better housing and heating conditions, more efficient clothing, improved methods of transportation, with multiplied comforts and conveniences.

There is no known relation between the weather of one season or year with that of the following season or year, various opinions to the contrary notwithstanding. The records of the Weather Bureau do not show that a relatively dry spring is followed by an unusually hot summer, or that an abnormally cool autumn is followed by a severely cold winter.

Tradition has it that the presence or absence of sunshine on Groundhog Day, February 2, determines whether or not winter conditions shall continue during the following six weeks; that a showery Easter

Sunday is followed by seven showery Sundays; and that

a rainy St. Swithin's Day, July 15, portends forty consecutive days of rainfall. No basis can be found for these traditions in available records.

What is popularly known as the equinoctial storm is supposed to occur about the time of the autumnal equinox, September 21, when the sun crosses the celestial equator to the southern hemisphere. The so-called equinoctial storm is a fiction.

Indian summer is another popular superstition. That there is frequently a return of summer-like conditions during the late autumn cannot be denied. But to affirm that Indian summer is a period of several weeks in duration, recurring each autumn, and easily recognized by the occurrence of heat, calms and haze, cannot be proved by climatological records.

Another false notion, particularly common in rural districts, is the belief that various animals, through some particular dispensation of Nature, have a previous knowledge of coming weather changes. As a result, many proverbs have arisen, based upon observations of the behavior of animals.

Physiologically considered, either from the point of view of man or of the lower animals, these forewarnings, often verified, have some basis for their existence. Men differ greatly from the lower animals in their sensitiveness, and most of the reliable proverbs based upon the behavior of animals are ultimately concerned with changes of humidity. To such changes certain animals appear to be supersensitive, while most men are phlegmatic in this respect.

That rain has resulted from the concussions attending the old-fashioned celebration of Independence Day (July 4) or during great battles, particularly those of the Civil War, has long been a popular belief. Even before gunpowder was used for military purposes it was held that rain was produced by the clashing of swords and armor in physical combat. In 1892 the United States Government disproved the idea by experiments in which violent explosions of dynamite were produced within clouds by means of kites and balloons, with no rain following as a direct or even as an indirect result.

Too much emphasis is also placed upon the temperature itself—our feeling of comfort is by no means entirely dependent upon the reading of the dry-bulb thermometer. Relative humidity is so important a contributory factor that the wet-bulb rather than the dry-bulb thermometer is often the better indicator. The feeling produced by a temperature of 100° F. experienced in Southern Arizona is wholly unlike that accompanying a similar temperature in an eastern city, the difference being due primarily to the marked difference in relative humidity.

Night air is occasionally referred to as though it is different from day air, and convalescents are sometimes urged to avoid it as dangerous. While there are

vious physical differences between night air and day air, there is little diurnal change in chemical composition.

The importance of ozone as a constituent of the atmosphere is popularly overestimated, and the numerous advertisements referring to it as the basis of the health-giving qualities of the air at certain resorts are largely a delusion and a snare. The healthful properties of the air at various resorts are due primarily to the dryness of the air, the relatively low temperature with small diurnal and annual ranges, the absence of dust and smoke, and the increased amount of atmospheric electricity, and only secondarily to the larger amount of ozone present in the atmosphere.

### The Chemistry of a Man

**Among Other Things He Contains Enough Carbon to Make the Lead in Sixty-five Gross of Pencils**

A GERMAN investigator has recently calculated that an average man weighing a hundred and fifty pounds if reduced to a fluid would yield 3630 cubic feet of illuminating gas and hydrogen, or enough to fill a balloon that would carry a hundred and fifty-five pounds.

If the normal human body were taken just as it is and all of the elements extracted from it, there would be found enough iron to make seven large nails, enough fat for fourteen one-pound candles, enough carbon to make the lead in sixty-five gross of pencils and phosphorus enough to tip 820,000 matches. Besides all this would be found twenty teaspoonfuls of salt, fifty lumps of sugar and thirty-eight quarts of water.

◆ ◆ ◆

Gentlemen:—

Some time ago your salesman called our attention to The Woolf Graphite Lubricator. As our "Ford" car was not working satisfactory we installed the Lubricator.

The car was noisy, smoked on exhaust, burned much oil, the carbon had to be removed often and the spark plugs removed and cleaned.

Since installing the Lubricator we notice about 25 per cent. saving on oil, and at least 10 per cent. on gas.

We cannot praise The Woolf Graphite Lubricator and Dixon's Motor Graphite too much.

Very truly yours,  
OREGON PRINTING CO.  
—*The Lubricator.*

◆ ◆ ◆

Oct. 17, 1916.

John S. Bridges, Esq., Pres.,  
Coale Muffler & Safety Valve Co.,  
Baltimore, Md.

Dear Sir:—

Enclosed you will find report on the Sweeley Graphite Lubricator.

This Lubricator was applied to our fifty-six (56) Horse-Power Vertical Steam Engine, and has been in service ten (10) hours a day for three months, and in this period has given unbounded satisfaction.

I consider this Lubricator a very valuable addition to our plant.

Our Chief Engineer reports that it has decreased the oil consumption fifty per cent. (50%), and increased the efficiency of the engine on which it was applied at least ten per cent. (10%).

Very truly yours,  
(Signed) Jos. A. VAETH,  
*Mechanical Superintendent.*

### Lest There Be a Collapse

**MOTOR PRINT** tells us that unless built of the finest materials and given constant attention, no motor car two years old should be driven at a speed of more than thirty miles an hour. That's average train speed, anyway, and should suit any motorist.

Materials get tired, just like human beings. Crystallization of steel means nothing more than that the metal has become weary of its burdens, is gradually weakening and suddenly collapses.

Be gentle with the old cars and they will be gentle with you.

As good habits and care and attention put off old age in the human, so does good care and attention put off old age and that tired feeling in the motor car. Worry is said to be the killing force in a human and friction is the killing and wearing force in the machine.

The superintending foreman of a trunk line railroad said to us the

other day, that the wear of a locomotive cylinder in a given time when lubricated with the best of oil was  $5\frac{1}{2}$   $\frac{1}{1000}$  of an inch, and when properly lubricated with Dixon's Graphite it was found to be only  $\frac{1}{1000}$  of an inch. It is the railroad company on which we can depend for careful testing and a watchfulness for economies.

Dixon's Flake Graphite, which is the basis of Dixon's Automobile Lubricants, will do the same for the motor car that it does for the mammoth railway locomotives.

### The Wise Ones

**T**HE wise ones know there is only one way to put off into the future the cost of repainting.

They know that in the cost of labor lies the chief expense in painting and repainting.

They know that the only way to overcome this matter of labor expense in repainting, is to use in the first place the most durable and lasting form of paint.

Dixon's Silica-Graphite Paint has been on the market for over fifty years. The wise ones have made use of it for the painting and repainting of metal surfaces, and these wise ones can be found in every part of the civilized world.

Dixon's Silica-Graphite Paint is used on the properties of the big trunk railway lines in the United States, and is also used largely by railway companies and municipal corporations in Europe and the British Colonies.

It is used in North America and South America. It is used in both temperate and tropical countries. It is used inland and on the sea coast.

As a protective and durable paint, it perhaps has the best reputation of any known paint.

Above all, it is known to be manufactured in one quality only—the highest.

◆ ◆ ◆

Just a bit of jolling,  
Just a bit of cheer;  
Don't care if it's foolishness,  
Helps a lot while here.  
—*Baltimore Sun.*

It is said that European nations are working out their destinies in these trying times in a masterful and efficient way.

The people of the United States, however, are spending money as never before, due to the present unheard-of prosperity.

No one knows when the war will cease, but when it does there will be a crash and the wise ones in the United States should now salt down a goodly portion of their gains.

### The Musical Clock

A COLORED preacher in the South tells of his visit to a certain household in a town in Georgia, where, quite early one morning, he was awakened by the tones of a contralto voice singing, "Abide With Me." As the preacher lay in bed he meditated upon the piety which his hostess must possess which enabled her to proceed about her task early in the morning singing such a noble hymn.

At breakfast he spoke to her about it, and told her how pleased he was.

"Lawsy!" she replied, "that's de hymn I boils eggs by; three verses for soft and five for hard."—*Harper's Magazine*.

### Nature and the Chemist

IT is a chemical fact that cane sugar is composed of twelve atoms of carbon plus eleven atoms of water. Glucose is a chemical sugar made from potato starch, and the difference is that glucose contains three atoms of water more than cane sugar.

The chemists can produce a chemical variety of sugar from sawdust and even from old rags. These transmutations seem to be the chemists' dream, but with all their skill the chemists thus far fail in their final competition with Nature's processes. The busy bee in search of food discards the chemical sugar and takes Nature's own product. We presume the bee understands the attempt to deceive him. You will do well to consider the wisdom of the bee when you are buying some article said to be "just as good." Don't be deceived by others or by yourself.

### Friction—Lubrication

THE only reason that an automobile moves is because of the friction between the driving wheels and the road. The only reason the automobile keeps on moving and brings the occupants home is because of proper lubrication in all of the bearing parts.

A well-known English authority on lubrication once said that the more solid the lubricant the better the lubrication. If all the bearing parts could be formed of graphite there would be no need of oils or greases. As they cannot be so formed, the best one can do is to make use of Dixon's Flake Graphite Lubricants. Flake Graphite builds up all the microscopical irregularities and forms a veneer-like coating on the bearing surfaces which is of wonderful smoothness and durability.

WHEN orders ain't a-comin' in,  
and the sun is shinin' too,  
When a man ain't makin' money—  
when he's feelin' kind o' blue,  
It's a great thing, O, my brethren,  
for a feller just to say  
"Here, Witte, take this order, and  
come and get your pay."  
—Riley.

## GOLDEN BOUQUETS

OR WHY

DIXON'S  
ELDORADO

"The Master Drawing Pencil"

SHOULD BE USED

"Your pencils are certainly equal to the best imported variety that I have used in my work, and this is a conservative statement. I thank you for the sample sent me."

"I HAVE used the 'Eldorado' pencils and I am surprised. They are better than any of the foreign lead pencils. I did not think it was possible to find such a good lead in American-made pencils. I have not as yet tried the 'Best White' pencil but expect to soon."

"IN reply to your inquiry in regard to the sample pencils you sent me. I was very much pleased with these pencils as they are an improvement on what I have been using. I shall specify the 'Eldorado' in my future orders to the material people."

"I HAVE given the pencils a fair test along with other brands and I can frankly say that the 'Eldorado' is equal, if not superior, to any other drawing pencil I have ever used, not excepting the famous '—'. I believe that the 'Eldorado' possesses all the qualities to be desired in the drawing pencil."

"THE liberal samples of 'Eldorado' master pencils, also the 'BEST WHITE' pencil for writing on blue prints, which you sent me, have been given a thorough test. As a user of high-class drawing pencils for more than a quarter century, I unhesitatingly state, no article used by me has given more thorough satisfaction."

*The above are extracts from some of the letters that have been received by the Pencil Department. Every one of them is genuine.*



BULKHEAD FENCE ERECTED AT PERTH AMBOY, N. J., BY THE FISKE IRON WORKS

## IS YOUR FENCE

Properly protected against corrosion, wear, etc.? Insure proper and lasting protection by using

# Dixon's Silica-Graphite Paint

*"The Longest Service Paint"*

The fence shown above was erected by the Fiske Iron Works, who are extensive users of Dixon's Silica-Graphite Paint. They have found that it is the most economical paint per year of service. Dixon's Paint has unusual qualities for protecting boiler fronts, smokestacks, fire escapes, tanks, iron shutters, and in fact all exposed metal or wood work, against heat, acids, dampness, gases and other deteriorating agencies.

*We will be pleased to send anyone our descriptive booklet No. 190-B.*

**JOSEPH DIXON CRUCIBLE CO., Jersey City, N. J.**











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